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THE
ORNITHOLOGICAL WORKS
OF
ARTHUR, NINTH MARQUIS OF TWEEDDALE.

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THE

ORNITHOLOGICAL WORKS

OF

ARTHUR, NINTH MARQUIS OF TWEEDDALE,

FELLOW OF THE ROYAL SOCIETY,
PRESIDENT OF THE ZOOLOGICAL SOCIETY OF LONDON, FELLOW OF THE LINNEAN SOCIETY,
AND MEMBER OF THE BRITISH ORNITHOLOGISTS' UNION.

REPRINTED FROM THE ORIGINALS,
BY THE DESIRE OF HIS WIDOW.

EDITED AND REVISED BY HIS NEPHEW,

ROBERT G. WARDLAW RAMSAY, F.L.S., F.Z.S., M.B.O.U.,
CAPTAIN 74TH HIGHLANDERS (LATE 67TH REGIMENT).

TOGETHER WITH A

BIOGRAPHICAL SKETCH OF THE AUTHOR

BY

WILLIAM HOWARD RUSSELL, LL.D.

OCT 22 1881
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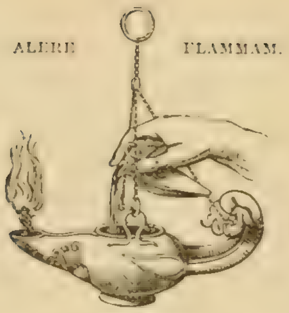

PRINTED BY TAYLOR AND FRANCIS,
RED LION COURT, FLEET STREET.

To the dear Memory of

THE AUTHOR

THIS VOLUME IS DEDICATED

BY

HIS WIDOW.

PREFACE.

At the request of his widow, I have undertaken the task of editing a reprint of the ornithological writings of the late Marquis of Tweeddale, which have from time to time appeared in various scientific publications.

The work, though melancholy, has been a double pleasure to me, inasmuch as I have felt that, being the individual to whom he thought fit to bequeath his valuable collections and library, I was the proper person to undertake it. Moreover I have thus been enabled to pay a tribute, however small, to the memory of him who was so dear to me.

It is encouraging to feel that such a work as is now produced will prove of use to the student of ornithology, who will in future be able to consult all the writings of the Author within the limits of one volume, instead of having to search through numerous journals and magazines.

In order to facilitate the quotation of the original references, I have introduced in this reprint, in the form of marginal notes, exact references to the original work. In using these references it must be remembered that they are placed opposite to the line in which the first word of a page of the original occurs, except in a few cases in which the word occurs at the end of a line, when the reference has been placed opposite the next line.

This work is an accurate copy of the original writings, and may therefore be safely quoted. The only instances in which the original text has been altered are in the case of obvious misprints, orthographical errors, or where I have found corrections in the Author's handwriting. I have deemed it more advisable to leave the text as much as possible as in the original, notwithstanding the varied orthography of scientific titles thus introduced, which was inevitable in writings extending over so many years.

At the end of the volume will be found an Appendix, containing:—

(1) A complete list of the Birds of the Philippine Archipelago, so far as is at present known, which has been compiled almost entirely from the writings of the Author, the ornithology of that group of islands having occupied his chief attention during the last few years of his life.

(2) Descriptions of new species of Birds from Burma by the Author, which could not be incorporated in this work, inasmuch as they only occur in the form of editorial notes to the posthumous "Catalogue of the Birds of Burma," by Edward Blyth, which appeared in an extra number of part 2 of the 'Journal of the Asiatic Society of Bengal' for 1875.

(3) A complete list, in the form of an index, of all the species described as new by the Author; to which is added a list of species described by Messrs. Jerdon and Blyth in the 'Madras Journal' (1845) and the 'Journal of the Asiatic Society of Bengal' (1845–46) respectively, from the manuscript of "Lord Arthur Hay."

(4) A list of species of which illustrations are given in the original papers.

(5) A paper on the habits of the Indian Boa, which was published in the 'Madras Journal' (1847), and which is, so far as I have been able to discover, the only paper on any other subject than ornithology from the pen of the Author which has appeared in any scientific publication.

Our cordial thanks are offered to the proprietors of the various journals in which the following papers occur, for their courtesy in granting permission to reprint them and to use the woodcuts; and also to Mr. William Howard Russell, to whom we are indebted for the sketch of the Author's life, which contributes so much to the interest of the volume.

If this work should prove as useful as is confidently expected, it will be a source of gratification to those who mourn his loss, and who trust that it will in some degree induce others to embrace a subject fraught with so much interest,. and to endeavour to raise themselves to as high a standard in the science as was attained by the Author of these writings.

ROBERT G. WARDLAW RAMSAY.

Whitehill, 1881.

CONTENTS.

	Page
PREFACE	iii
ADDENDA ET CORRIGENDA	xi
BIOGRAPHICAL SKETCH OF THE AUTHOR. By W. H. RUSSELL, LL.D.	xiii

1844–45.

	Original Reference.	Page
Descriptions of some supposed New, or Imperfectly Described, Species of Birds	Madr. Journ. Lit. & Sc. xiii. p. 145	1

1866.

Notes on Birds collected in Tenasserim and in the Andaman Islands	Proc. Zool. Soc. p. 537	15
On the *Muscicapa melanictera* of Gmelin	Ibis, p. 316	33
Letter on *Brachypus gularis*, Gould, to the Editor of 'The Ibis'	Ibis, p. 423	37

1867.

On the Rufous-tailed Shrikes	Ibis, p. 211	38
Letter on *Garrulax leucogaster*, Walden, to the Editor of 'The Ibis'	Ibis, p. 381	48
Letter on *Loriculus edwardsi*, Blyth, to the Editor of 'The Ibis'	Ibis, p. 467	49

1868.

Note on *Lanius melanthes*, Swinhoe, and on *Lanius cephalomelas*, Bp.	Ibis, p. 68	50

1869.

Remarks on Dr. Stoliczka's "Ornithological Observations in the Sutlej Valley"	Ibis, p. 208	52

1869 (*continued*).

	Original Reference.	Page
Letter on *Lanius superciliosus* and *Lanius magnirostris*, to the Editor of 'The Ibis'	Ibis, p. 242	56
On the *Cuculidæ* described by Linnæus and Gmelin, with a Sketch of the Genus *Eudynamis*	Ibis, p. 324	57

1870.

	Original Reference.	Page
On the Sun-birds of the Indian and Australian Regions	Ibis, p. 18	71
Descriptions of some new Species of Birds from Southern Asia	Ann. & Mag. Nat. Hist. ser. 4, v. p. 218	93
Letter relating to the Indian Yellow-headed Wagtails, to the Editor of 'The Ibis'	Ibis, p. 293	95
Descriptions of some new Species of Birds from Southern Asia	Ann. & Mag. Nat. Hist. ser. 4, v. p. 416	96

1871.

	Original Reference.	Page
Letter on *Prinia albigularis* and *Ephialtes jerdoni*, to the Editor of 'The Ibis'	Ibis, p. 112	97
Descriptions of three new Species of Asiatic Birds	Ann. & Mag. Nat. Hist. ser. 4, vii. p. 241	98
Observations on Dr. Stoliczka's "Contributions to Malayan Ornithology"	Ibis, p. 158	99
On a new Species of *Trichoglossus* from Celebes	Ann. & Mag. Nat. Hist. ser. 4, viii. p. 281	113
Notice of a new Species of *Polihierax* from Burma	Proc. Zool. Soc. p. 627	113

1872.

	Original Reference.	Page
Description of a new Species of *Porzana* from the Himalayas	Ann. & Mag. Nat. Hist. ser. 4, ix. p. 47	114
On Birds recently observed or obtained in the Island of Negros, Philippines	Ibis, p. 93	114
Description of a supposed new Species of Cuckoo from Celebes	Ann. & Mag. Nat. Hist. ser. 4, ix. p. 305	123
On some supposed new Species of Birds from Celebes and the Togian Islands	Ann. & Mag. Nat. Hist. ser. 4, ix. p. 398	124
A list of the Birds known to inhabit the Island of Celebes	Trans. Zool. Soc. viii. p. 23	127
Appendix to a List of Birds known to inhabit the Island of Celebes	Trans. Zool. Soc. viii. p. 109	207
Letter on *Cyornis tickelliæ*, Blyth, and *C. jerdoni*, G. R. Gray, to the Editor of 'The Ibis'	Ibis, p. 330	215
On a new Species of *Timelia* from Eastern India	Ann. & Mag. Nat. Hist. ser. 4, x. p. 61	216
On a Collection of Birds recently made by Mr. A. H. Everett in Northern Borneo	Ibis, p. 360	217
Letter on *Lithofalco feildeni* and *Erythrosterna parva*, to the Editor of 'The Ibis'	Ibis, p. 471	233
On two new Species of Birds from the Philippine Islands	Ann. & Mag. Nat. Hist. ser. 4, x. p. 252	234

1873.

	Original Reference.	Page
On a Collection of Birds recently made by Lieut. Robert Wardlaw Ramsay, F.Z.S., in the Andaman Islands	Ibis, p. 296	235
Descriptions of three new Species of Asiatic Birds	Ann. & Mag. Nat. Hist. ser. 4, xii. p. 487	252

1874.

Letter on *Troglodytes punctatus*, Bl., to the Editor of 'The Ibis'	Ibis, p. 91	253
Descriptions of two new Species of Birds	Ann. & Mag. Nat. Hist. ser. 4, xiii. p. 123	253
On a further Collection of Birds made by Lieut. Robert Wardlaw Ramsay, F.Z.S., in the Andaman Islands	Ibis, p. 127	254
A Reply to Mr. Allan Hume's Review of 'Die Papageien' of Dr. Otto Finsch	Ibis, p. 270	269
Descriptions of some new Species of Birds	Ann. & Mag. Nat. Hist. ser. 4, xiv. p. 156	287
On *Megapodius trinkutensis*, Sharpe	Ann. & Mag. Nat. Hist. ser. 4, xiv. p. 163	289

1875.

Letter on *Gecinus erythropygius*, Wardlaw Ramsay, to the Editor of 'The Ibis'	Ibis, p. 148	290
Descriptions of some supposed new Species of Birds	Ibis, p. 250	290
Letter on an abnormal specimen of *Palæornis melanorhynchus*, Wagler, to the Editor of 'The Ibis'	Ibis, p. 270	292
A List of the Birds known to inhabit the Philippine Archipelago	Trans. Zool. Soc. ix. p. 125	293
Descriptions of some undescribed Species of Birds discovered by Lieut. Wardlaw Ramsay in Burma	Ann. Mag. Nat. Hist. ser. 4, xv. p. 400	413
Notes on Birds from Burma	Ibis, p. 458	416

1876.

Letter showing that only one Species of *Artamus* is known to inhabit the Philippine Islands, to the Editor of 'The Ibis'	Ibis, p. 133	420
Notes on the late Colonel Tickell's manuscript Work entitled "Illustrations of Indian Ornithology"	Ibis, p. 336	422
Description of a new Species of the Genus *Trichostoma* from the Island of Celebes	Ibis, p. 376	435
Letter on *Sterna albigena*, to the Editor of 'The Ibis'	Ibis, p. 384	436

1877.

	Original Reference.	Page
Letter on *Anthus gustavi*, to the Editors of 'The Ibis'	Ibis, p. 258	437
Descriptions of three new Species of Birds from the Indian Region	Proc. Zool. Soc. p. 366	437
Notes on the Species of the Genus *Batrachostomus* inhabiting the Indian Region	Proc. Zool. Soc. p. 420	438
Reports on the Collections of Birds made during the Voyage of H.M.S. 'Challenger.'—No. II. On the Birds of the Philippine Islands	Proc. Zool. Soc. p. 535	459
On a Collection of Birds made by Mr. E. C. Buxton in the District of Lampong, S.E. Sumatra	Ibis, p. 283	476
Letter on the Identity of *Pellorneum minus*, Hume, with *P. subochraceum*, Swinhoe, and *P. tickelli*, Blyth, to the Editors of 'The Ibis'	Ibis, p. 385	504
Letter relating to two Species of *Batrachostomus* described by Mr. A. O. Hume, to the Editors of 'The Ibis'	Ibis, p. 388	506
Description of four new Species of Birds from the Indian Region	Ann. & Mag. Nat. Hist. ser. 4, xx. p. 94	509
Note on the *Pellorneum tickelli* of Blyth	Ibis, p. 451	510
Letter on the Plates of *Ægithina viridissima* and *Prinia rafflesi* in 'The Ibis,' to the Editors of 'The Ibis'	Ibis, p. 487	511
Letter on *Horeites sericea*, *Alcippe magnirostris*, and some Birds described by Mr. Hume, to the Editors of 'The Ibis'	Ibis, p. 487	511
Contributions to the Ornithology of the Philippines.—No. I. On the Collection made by Mr. A. H. Everett in the Island of Luzon	Proc. Zool. Soc. p. 686	512
Contributions to the Ornithology of the Philippines.—No. II. On the Collection made by Mr. A. H. Everett in the Island of Zebu	Proc. Zool. Soc. p. 755	529
Contributions to the Ornithology of the Philippines.—No. III. On the Collection made by Mr. A. H. Everett in the Island of Mindanao	Proc. Zool. Soc. p. 816	543
Descriptions of some new Species of Birds	Ann. & Mag. Nat. Hist. ser. 4, xx. p. 533	561

1878.

Contributions to the Ornithology of the Philippines.—No. IV. On the Collection made by Mr. A. H. Everett in the Islands of Dinagat, Bazol, Nipah, and Sakuyok	Proc. Zool. Soc. p. 106	566
On a new Philippine Genus and Species of Bird	Proc. Zool. Soc. p. 114	573
Notes on the *Dicruridæ*, and on their Arrangement in the Catalogue of the Collection of the British Museum	Ibis, p. 69	574
On a new Species of the Genus *Buceros*	Proc. Zool. Soc. p. 277	584
Contributions to the Ornithology of the Philippines.—No. V. On the Collection made by Mr. A. H. Everett in the Island of Negros	Proc. Zool. Soc. p. 280	586
Contributions to the Ornithology of the Philippines.—No. VI. On the Collection made by Mr. A. H. Everett in the Island of Leyte	Proc. Zool. Soc. p. 339	595

1878 (*continued*).

	Original Reference.	Page
Contributions to the Ornithology of the Philippines.—No. VII. On the Collection made by Mr. A. H. Everett in the Island of Panaon ..	Proc. Zool. Soc. p. 379 .	602
Contributions to the Ornithology of the Philippines.—No. VIII. On some Luzon Birds in the Museum at Darmstadt	Proc. Zool. Soc. p. 429	604
Contributions to the Ornithology of the Philippines.—No. IX. On the Collection made by Mr. A. H. Everett in the Island of Palawan ..	Proc. Zool. Soc. p. 611 .	606
On *Poliohierax insignis*	Rowley's Orn. Misc. iii. p. 169	620
Contributions to the Ornithology of the Philippines.—No. X. On the Collection made by Mr. A. H. Everett in the Island of Bohol	Proc. Zool. Soc. p. 708 . . .	620
Letter on the Genus *Artamus*, to the Editors of 'The Ibis'	Ibis, p. 383	625
Contributions to the Ornithology of the Philippines.—No. XI. On the Collection made by Mr. A. H. Everett at Zamboanga, in the Island of Mindanao....................................	Proc. Zool. Soc. p. 936 . .	627

1879.

Contributions to the Ornithology of the Philippines.—No. XII. On the Collection made by Mr. A. H. Everett in the Island of Basilan ..	Proc. Zool. Soc. p. 68	645

APPENDIX.

I. Revised List of the Birds known to occur in the Philippine Islands, showing their Geographical Distribution	....	653
II. Descriptions of new Species of Birds from the Burmese Region ..	J. A. S. B., Aug. 1875, ii. ex. no.	661
III. Alphabetical List of the Genera and Species described as new by the Author, with Remarks on various Species by the Editor ..	....	663
IV. List of Species of which Illustrations are given in the Original Papers..............................	.. ..	672
V. Notice of the Habits of the large Indian Boa or Rock-Snake	Madr. J. Lit. & Sc. xiv. pt. ii. no. 33 (1847)	674

INDEX 677

ADDENDA ET CORRIGENDA.

Page 193, line 22, *for* (Forsten) *read* (Forster).

388, add footnote to No. 158:—The Philippine species is distinct, and has been named *M. dillwynni* by the author.

518, add:—31*a*. PSEUDOLALAGE MELANOLEUCA[†] (77).

656, add:—112*a*. Edoliosoma alterum[‡], *Ward. Rams.*, ex Zebu.

657, 158. Dasycrotopha speciosa, *dele* * *under* Bohol.

663, line 16, *for* p. 447 *read* p. 487.

666, *after* flavipennis, *Tweeddale* (Phyllornis), *add* formosus, *Walden* (Troglodytes).

670, Add:—

1874.	TROGLODYTES FORMOSUS, Walden .... A title proposed in place of *T. punctatus*, Blyth, J. A. S. B. xiv. p. 589.	Darjeeling	Ibis, 1874, p. 91	253

683, *add* Athene japonica, 144.

686, *add* brunneus (Hemicercus), 480.

687, line 2, *for* fæostriatus *read* phæostriatus.

689, canescens (Totanus), *for* 650 *read* 660.

691, Centrococcyx viridis, *after* 550 *insert* (1878).

702, dauricus, *for* (Temenucha) *read* (Temenuchus), *and for* 319 *read* 369.

702, *add* Dendrocopus sordidus, 481.

702, *add* Dicæum flavum, 363.

715, hugonianus (Ptilopus), *for* 77 *read* 377.

[†] The Tweeddale collection contains two immature specimens collected at Laguna de Bai, near Manilla, by Mr. Everett, which were not noticed by the author in his paper on the birds of Luzon.

[‡] Ibis, 1881, p. 34.

ARTHUR HAY, NINTH MARQUIS OF TWEEDDALE.

A BIOGRAPHICAL SKETCH.

OUTSIDE a circle of no very large area in comparison with what is called the world, the subject of this sketch was but little known; but the circle which included the friends and admirers of Arthur Hay consisted of men whose friendship and esteem, not lightly bestowed or causelessly lavished, were the cherished rewards of unflinching honour, high principle, great solidity of character, a warm heart and steady love of truth, combined with a quick intelligence, liberal attainments as a naturalist, and an ardent spirit of investigation and research. An excellent officer, devoted to his profession, he was also a laborious student; and his proficiency and success in the branch of knowledge to which he more especially devoted his attention will be best demonstrated by the perusal of the papers he left behind him, which are to be found in the present volume. A modesty which was in a great measure accentuated by the shyness said to be somewhat characteristic of the members of his ancient race, prevented him from taking that place in the eye of the public to which his abilities and judgment entitled him; but his calm judicial mind, his business habits, his quick appreciation of the merits of persons or things subjected to discussion, caused men to come to him eagerly in time of trouble, and insured him a high position in those little unofficial councils which exercise so great an influence over the inner life of society. His name never came prominently before the public; but he exercised a far greater influence than many of those who stood in front of him; and it was felt, by all who were acquainted with his capacity and qualities, that in a season of trial he might at any moment appear as one of the men of light and leading to whom the country turns for assistance when there is danger in the distance.

There were probably few men of such ancient lineage as Arthur Hay who felt so strongly as he did that honourable ancestry is an obligation, and not a patent of personal superiority to one's fellow men;

> "Nam genus et proavos et quæ non fecimus ipsi,
> Vix ea nostra voco."

But he was not indifferent to the duties which were imposed upon him as the inheritor of illustrious traditions, local and imperial. For four centuries the Hays of Yester have been noble; and in the history of Scotland the name of members of the family appears from time to time in connexion with great events and high offices in the State. They were charged with important functions in war and peace; and after the union of the two countries they were entrusted with the discharge of various duties, civil and military, which are celebrated in the annals of the times. In the main the Hays were possessed of the politic faculty which recognizes the force of accomplished facts; but they were not obsequious courtiers or visionary theorists, and there were at all times scions of the House ready to tempt fortune in the court or in the field. It was a Hay of Yester who stepped out in front of the English Guards at Fontenoy to meet the not less chivalrous Frenchman of the Maison du Roi, to exchange the famous compliment which has been recorded in every account of the battle; and the writer of this sketch has heard General Scott, the Commander-in-Chief of the Army of the United States, describe a scene at the battle of Lundy's Lane, where a young English officer, badly wounded and streaming with blood, stood at bay, with his back to a wall, striking fiercely with his sword against the bayonets of a host of Americans, and exclaiming "I will never surrender," till the kindly Virginian, who, by a strange coincidence, had captured his brother a short time before on the banks of the Potomac, came up and saved his life. The young officer of whom I speak was George, the eighth Marquis of Tweeddale, the father of Arthur Hay—a man of extraordinary natural ability and force of character, throwing himself with energy into the pursuits of the chase or of agriculture or of war, and of masterful will and purpose. He entered the army in 1804, being then seventeen years old; and on the outbreak of the Peninsular War he proceeded with his regiment to Spain, and was speedily distinguished as an intelligent officer. He was wounded at Busaco, and in consequence was for some time incapacitated from service in the field; but he was on the Staff of Wellington's army in the Quartermaster-General's Department at the battle of Vittoria; and when the war with France was over for the time, he was sent with his battalion to America, where we have just read of him wounded and a prisoner, and thus he had not the good fortune to be one of those officers whose Peninsular services were immeasurably enhanced by their participation in the glories of

Waterloo. Nevertheless the eighth Marquis could not complain of slowness of promotion. He became Colonel in 1825, Major-General in 1837, Lieut.-General in 1846, General in 1854, and in 1876 died Field-Marshal. In 1842 he was selected for employment in India, and was Governor of Madras at the time of the Mutiny up country, which but for his vigour and instant action might have assumed serious proportions. Soon after the conclusion of the war with France he married Lady Susan Montagu, third daughter of the fifth Duke of Manchester, and by her had six sons and eight daughters.

In pursuance of some settled purpose the Marquis sent Arthur Hay, his second son, who was born 9th November, 1824, after a preliminary course of study with his brothers under the tuition of Dr. Thomson at Yester, to Germany. I have no information respecting the course of his life and studies, first at Leipsig, and subsequently at Geneva, where he was placed in the charge of Dr. Daubigny, author of the ‘History of the Reformation,’ which has a European if somewhat ultra-Protestant reputation; but I know that he learned German and French and the art of skating, and that, at Leipsig, he developed the taste for music and operatic performances which the Calvinistic atmosphere of Geneva did not eradicate, and which lasted to the end of his life. When, in 1839, he was summoned from the continent to assist at the wedding of his sister Lady Elizabeth and the present Duke of Wellington, the members of his family were somewhat perplexed by the appearance of the student in long hair and garments of foreign cut who came among them; but "Arthur" was soon an established favourite with his numerous brothers and sisters. He was then fifteen years of age; and two years afterwards (30th April, 1841) he entered the Army as Ensign and Lieutenant by purchase in the Grenadier Guards. Arthur Hay was not, however, one of those Guardsmen—exceptional, it must be said—who think they ought to wait till "the Guards" are sent to the field, to learn the active duties of their profession; and he was delighted when he was appointed to the Staff of Lord Hardinge in India, where we were then about to be engaged in the most arduous task which ever tried the skill of our leaders and the mettle of our soldiers. As Aide-de-Camp to the gallant and successful soldier and Governor-General he served through the Sutlej Campaign (1845–46), and was present at the famous battles of Ferozeshuhur and Sobraon, where he won his first military honours. At the termination of the war in 1846 he went up to Simla; but he did not long remain inactive, for in May of that year he planned an expedition, of which I find the following rough note in his memoranda, showing that his ambition as a traveller went far beyond the general scheme of Simla tourists. It was:—"From Simla go to Fos Radakh, then to the Paeng-Kung lake, and try to go round it, visiting the Tsoral lake; then try and reach the valley of the Shai-Yak river from the plains of Chau-Tau, and follow up the course of that river to the Nubia-Tshon lake. Go as far as possible on the Yarkund road, and then reach the Yarkund river; go along the northern base of the Korakoram and Mustak range, and recross into Thibet, coming down the valley of Brahal Dob. If possible go (without going to Iskardo) over the Pass from Basha into the valley of Nagyr; from thence to Gilghit, visiting Hunzi; from Gilghit to Chitraal, crossing the most southern part of the range, and then try and get into Kafferstan. Return to Chitraal and go to Mustak, and from there make your way into Pameer and on to Kokun the best way you can without getting your throat cut."

So far I am not able to ascertain how much of the programme he was enabled to accomplish, for the diary he left ends abruptly on the 22nd September, as he was on his way from Leh; but if I am to judge from some rough notes in its pages, he had apparently a very extensive programme of travel in view. He had a complete set of barometers for heights, thermometers, one sextant, one quadrant, two compasses, a time-dial, two pedometers, and mapping instruments, so that he intended to turn his travel to good account; and the expedition, though much of the country is now explored thoroughly, was in those days one of no ordinary daring and enterprise. He was struck in the early part of his journey through the territories of Golab Sing, on the banks of the Beas, with the neatness of the town and the comfort of the people. "Altogether the inhabitants seem to be a great deal better off than are peasantry in Ireland. The labourers, to be sure, are not very certain of their liberty. The coolies for our loads were always pressed; and if any ran away, we went into the first field or village and took the men away by force from his plough or his pipe. They have so great a horror of being taken, that they often run away without being paid when they had completed their work. Yesterday Browne seized fourteen men that he met casually on the road, and, though they objected, they made no resistance. As we had not far to go we let them off."

There are many interesting passages in the Diary, parts of which are scarcely legible; but the ground over which the tourists passed (much of which was then but little known to Europeans) has been rendered familiar by the descriptions of many travellers. The natural features of the country, the events of each day, the sporting adventures, and the animals, and, above all, the birds, are described in clear good English as shortly as possible. The last entries are as follows:—

"September 15th. Flogged two coolies for being bumptious to H.'s kelassee yesterday. Gave each two dozen, and they roared most unmercifully. Marched to Diuskin, 10 coss; road good. Piti valley a pleasant change after Thibet, and much more hospitable in its general features and climate. Diuskin is a curious village, built on the summit of some rocks; the Piu river falls into the Piti river nearly opposite to the Ioiosi. Day cloudy, almost cold.

"September 16th. The river being too full we cannot cross, and are obliged to keep to its left bank, which gives us a day's extra march. Marched to Taboor, distant 30 coss. Road bad, and, from the river being out, we had some very awkward riding. Day cloudy; village small; march long.

"September 17th. Found ourselves, after a march of 9 coss, at a halting-place among rocks called Hassing. The path is made for the most part of the way, along the sides of the hills, and in a loose slime which gives way at every step.

"September 18th. Rained all night and nearly the whole day; nasty damp cold weather. All the mountains for two thirds of their height covered with fresh snow. Started all the same for Tsmih, a small village about 8 coss off. After having gone about 2 coss came opposite to the junction of the Tsmih and Piti rivers; both streams about equal in size. Road bad, and in part unridable—formation of the hills being a cream-coloured sandstone lying in horizontal strata and topped by either gneiss or slate; the path passing over them is very slippery, and the sides precipitous: the Piti river may be seen below some 700 feet. After a great deal of steep up-hill riding to the summit a point is gained from whence the village of Tsmih may be seen, and even a cross on its (Buddhist) church. Goldie's horse fell over a precipice and was killed.

"September 19th. After riding for about 2 coss we arrived at the village of Stenik, belonging to the Chinese, as does yesterday's one; on the other side of it we found a small saugra, over which we passed to gain the left bank of the Stenik. The road after leaving the bridge is very steep, very bad, and quite unridable. I never saw any thing equal to it. The day's march was to a parish or village called Sung or Chunge. I did not arrive till about three hours after dark; here I was met by a man the Rajah had sent out to attend to my wants.

"September 20th. Marched to Lis (Lees, Lee), a large village on the right bank of the Piti river; the road pretty good and the distance about 6 coss. The village of Nahpo (Naahpo) is situated high up above the river on its left bank, and we passed through another just below Nahpo. The Piti river is crossed by a pretty good saugra, inclined to one side, however, which renders it awkward to cross.

"September 21st. The road from Lis to Hamu commences by a tremendously steep ascent, which can be seen from the village, which being mounted you have a good path all the way to Hamu, distant 4 coss. We had determined to halt at Sumun, 6 coss further on, and crossed another steep hill on leaving Hamu. Sumun is a large village and very pretty, the scenery becoming much more hospitable and the climate delicious. Nothing came up till the middle of the night. I slept out in the open.

"September 22nd. Marched to Labrun, distant 8 coss. The path crosses over the high mountains in front of Sumun, and the ascent is very long and steep; path good. Arrived at the summit you descend again to Labrun, first passing through the grounds of a village about a coss above it. Labrun is very pretty. Plenty of grapes yesterday and today. Things behind again. No dinner the second night running."

When he returned to England from India he had been some time Captain by purchase, and he rejoined his regiment with the reputation of being a keen and diligent soldier; but his active habits, and his desire to observe men and manners, were for ever impelling him to foreign travel, and he obtained long leave as soon as he could to make an extensive tour in the East. In the autumn of 1851 he left England for the Continent, and in a diary which is now before me there is a vivid description of railway and passport annoyances at the time, that ought to make the modern traveller thank his stars that he belongs to a later generation, even though he has to put up with "personally conducted" tourist gangs. In the journey from Cologne to Hanover there were in those days five changes of carriages. "We stopped every ten minutes on an average, and halted five minutes at each place." At Leipsig he visited his old friend Pastor N———'s family. "His delight was extreme when he recognized me. I found Gertrude, a fine girl of 22, very pretty; the other two girls as nice as ever. I will not," he says, "describe my feelings at the sight of so many dear scenes again. It was the best pleasure I had in life. For fourteen years I had looked forward to it. In two days it was tasted; and now anticipation has changed places with memory. Went off to see 'the soldier's grave' on the banks of the Pleisse. The Cross is gone; garlands no longer adorn it. *She* is dead. The soldier was killed in the great battle. A foreigner and a stranger, he had won the love of a young German girl. For years she watched by his grave, kept it neat and covered it with garlands and flowers. In the daytime no one was ever seen near it; yet in the morning there were the flowers fresh and fair on the mound. Poor girl! Winter and summer, every night she watched till she died. In a few years more the grave will be effaced, and nothing will remain to record the undying love of this nameless maiden. Many a time have I, as a boy, ridden by that grave and seen her figure all in white hovering near it." Is not that a charming little sketch? From Leipsig he went to Dresden, Prague, Brunn, Vienna, and down the Danube to Pesth, noting diligently all that was worthy of attention on the way, and not indifferent to the political and military aspect of the scene through which he passed, or uninfluenced in his comments by the effect of the tremendous revolutionary wave that had just swept over Europe. The repressive measures, the crowded prisons, the system of espionage and police control which were in full force and vigour excited his indignation and disgust, and he prophecies that if these things are not altered "the Austrian Empire will be broken up. It cannot possibly last as it is." It is startling to read the words in which he records the general estimate of Görgy, Klapka, and Kossuth at the time, and to compare the contemporary impression of their conduct and character among the people with whom he associated with that which generally prevails now-a-days.

From Pesth he proceeded to Semlin and Belgrade; and on 31st October he set out from the latter place for Constantinople on horseback, suffering much on the way (as all who have ever made the same journey must have done) from insect persecution and evil accommodation at the roadside halting-places, and enduring the consequences, often leading to more serious illness than he records, of the hurried ride on Tartar horses through the Provinces to the shore of the Bosphorus. But, alas! There is again a break in the narrative Arthur Hay wrote of his journey; and there is no record, accessible to me, of how far he went, or to what extent he carried out the programme of an extensive exploration of Asia Minor, Palestine, Arabia, &c., which I glean, from references here and there to his future, he had in his mind at the time he penned his journal. However, he was destined soon to revisit the east of Europe under very different circumstances, and to take a share in the great war with Russia which burst so suddenly upon the world.

One would have liked to know if such a close observer detected any symptoms of the coming storm as he passed through the regions which were so speedily to feel its power; but, so far as his notes on Bulgaria extend, there is not a trace in them of any impression being made on his mind that the Turks were treating the people with injustice or cruelty. However, a very short time only could have elapsed between his return to England from the East in 1852 and the commencement of the diplomatic agitation about the Holy Places and the oppression of the Christian subjects of the Porte, which culminated a year later in the Russian invasion of the Principalities and in the Crimean War.

It must have been with profound regret that a keen soldier like Arthur Hay found himself debarred by his regimental position from accompanying the battalions of the Brigade of Guards which, in the hope that the news of their arrival at Malta would cause the Czar to hesitate in his purposes of aggression, were dispatched from England, in February 1854; but it must have been with keener feelings still that he and his brother officers at home heard of the successive movements onwards and eastwards which brought the Guards from Malta to Scutari, to Varna, to Bulgaria, and at last to the shores of the little-known peninsula, where they were to make the words "Alma" and "Inkerman" famous for ever. The exultation with which the news of the successful invasion of the Crimea, and the investment of Sebastopol was received at home, the rapture with which men read of the chivalrous deeds of the cavalry at Balaclava, and the mournful pride which filled the nation when they knew how their soldiers fought at Inkerman, were soon merged in painful anxiety for the future. Post after post, letter after letter, brought intelligence of delay, disease, and death, and all the sickness of hope deferred fell upon the people. The contrast between the published reports of the Commander-in-Chief on the spot, set forth in gazettes and dispatches, and the accounts in unofficial and private letters was not long in producing a sentiment of irritation and disgust; and the public mind gave way to unjust exasperation against all those in authority, when it was found that the worst features of the unauthorized and discredited narratives of irresponsible writers were more than justified, whilst the country was alarmed by the haste and excitement evinced by the Government in sending out reinforcements and succour of all kinds to the moribund army. The Brigade of Guards had been among the chief sufferers in the campaign. Draughts were imperatively demanded to fill up the gaps in their ranks; and in the last days of November 1854, Arthur Hay, who had become Captain and Lieut.-Colonel without purchase on 19th Oct. previously, sailed from England for the Crimea, which he reached with his detachment on December 11th, just as the worst period of the chaos which reigned at Balaclava had been tided over with a wonderful wreckage of "institutions" and great injury to the reputations of statesmen and soldiers.

It must have been with something like amazement that Arthur Hay made his acquaintance with the remnant of the British army, and, above all, with the handful of officers and men who represented the splendid Brigade that had landed at Old Fort three months before. The contrast between the comrades who greeted him as he landed and the sleek fresh lads who had accompanied him from England, must have been painful indeed; and what met the eye of a soldier accustomed to the luxury, if not the waste of Indian armies, and the ease and abundance of necessaries in Indian campaigning, could not but have been almost appalling; so that it is not wonderful if the elation he experienced at the thought of active service should have been succeeded presently by indignation and despondency.

It is useful, even at this length of time, to reproduce the story of the War, as it was told in familiar letters to his father and his family at home, by a man of perfect truthfulness and patriotism, who had no purpose to serve and no end to gain in what he wrote, and who had followed his profession with earnestness and affection; one, too, who was not making his first proof of arms—one who had campaigned against a formidable enemy, and had taken part in bloody fields. During the whole of his absence, amidst the heart-burnings, disappointments, and miseries of a war disgracefully mismanaged, Arthur Hay rarely let a day pass without noting its occurrences for the information of his relatives. It is wonderful how in the excitement of trench-work, the arduous daily duties of a field-officer, he could have strung his thoughts so harmoniously together to write "*currente calamo*" an elaborate description of what occurred under his own observation during the entire time his regiment served in the Crimea.

At the close of the year (1854) we find him under the influence of the feelings which were general throughout the army, and were perhaps stronger in the Brigade of Guards than in other corps, because the officers had more time to look around them, and had better sources of information. In one of his earliest letters, writing from the camp at Balaclava, Arthur Hay says:—"The French force, amounting to 70,000 men, is capitally fed, well-housed, and well-clothed, while our people are starving, wet through, and half naked. One of our divisions had only 2½ lbs. of salt pork per man during 17 days. The distance from the front is only 7 miles; and though provisions are in abundance here, no means exist of sending them that distance. The French do every thing for us. The army is in a complete state of disorganization, the men harassed by work, bad weather, and constant night attacks. So bad is the look-out kept that on the night of our arrival here, during a sortie, a Major and two or three of the officers of the 50th, together with a number of men, were killed, some being bayoneted in their blankets. The enemy are always on the alert, and they know which regiment is in the trenches. This is the second time they have surprised the 50th." The feature which struck him most was the unpopularity of Lord Raglan. To use his own words:—"Since he landed he has given out but very few general orders, and has but seldom shown himself to the troops. He has grown nervous; and a great deal of his present unpopularity is owing to want of success; much of it, however, seems just. He has not succeeded in choosing good heads of departments; he enforces no discipline; the troops have been starved from mismanagement. The universal cry is for the removal of Lord Raglan, who has been made a Field-Marshal, while all the Generals remain unpromoted. For myself I foresee great disasters unless the plan of our campaign be altered and some organization introduced. I shall, however, say nothing more about the shortcomings of our General; my conviction of his total incapacity to command is the only source of distrust in my mind as to our ultimate success." It will be seen that Arthur Hay had the courage of his opinions; but it must be inferred that, at the time he wrote, the impressions of those around him, who had served under the General from the outset, had a large share in the formation of a judgment which he expresses so boldly.

It is not to be wondered at that there was such indignation aroused in the minds of the newly arrived officers, at the spectacle presented to their eyes on landing; and a brief experience of camp-life did not tend to diminish their anger and disgust. At the commencement of 1855 sickness and starvation had indeed played havoc with the Army. Although 53,000 men in all had embarked from England, and a very small proportion had fallen before the enemy, its effective strength in January was represented by 11,000 men, so that 40,000 men must have disappeared from the ranks from disease in some form or other; but sickness was in no way abated. Dead horses and offal lay unburied around the tents. Thanks to the cold and bitter frost, a pestilence was averted. Amongst the officers the task of endurance was more bitter perhaps than it was for their men. Constant scenes of horror had hardened some indeed, and made them callous; but it was almost maddening to others of a more sensitive nature to see their men sinking, and to note that no progress was made in the siege, and that the enemy were daily strengthening themselves. There was "great neglect of discipline, the men not saluting their officers, which should not be permitted in an army occupying permanent quarters."

The troops were neglected and demoralized. Neither General of Division nor Brigadier went amongst them "to give them a cheering up," and recklessness was the order of the day. Bad and insufficient food produced their inevitable consequences. The Surgeon of the Scots Fusileers reported that, with the exception of the last draft, there was not a single man free from scurvy. It must be remembered that many of the soldiers were mere striplings sent out to replace the stalwart men who were daily dropping off. So little could these young troops be relied upon in front of the enemy, that no officer ventured to let the night pass without visiting the posts under his charge incessantly.

In another letter Arthur Hay mentions that he had nine men drunk upon duty in a day! A man was tried for striking a serjeant and an ensign of his regiment, but was pardoned by Lord Raglan. A serjeant was also pardoned, though found guilty of being drunk on duty the same night in the 3rd parallel in the presence of the enemy!

Writing on January the 5th, 1855, he presents the following picture of the condition of the troops:—"At this moment there is not a drop of medicine or brandy—no medical comforts, no bedsteads or bedding, no dry flooring, no means of healing, no hospital tent even for the sick and wounded in camp; they lie on the wet ground with two wet blankets to cover them. I brought out with me 700 Guardsmen; including these our force of effective men in the Brigade yesterday was 1115; and in the night 67 were admitted to hospital. You will readily understand what our men are suffering, when I tell that they are in rags, have no change of shoes or stockings, some nothing but white trowsers to wear, nothing wholesome to eat, small means of cooking from want of fuel; and now that the snow has fallen, these limited means have been much diminished, while at the same time the men are called upon to do outpost-duty of the severest nature and also trench-work. A captain of the 23rd had both his legs amputated this morning, in consequence of frost-bites last night. Before this hard weather we had forty-eight hours of rain in torrents; then came a hard frost; and the men's clothes are actually frozen on their bodies."

He attributes all this suffering—not to any failure on the part of the authorities in sending out stores of food and clothing, but to want of attention on the part of their subordinates to the quality of the articles—to the incompetency or carelessness of the government officials. The men received new shoes, but they proved useless from being too small; the same observation applied to great-coats and other articles. "France, with an army far larger than ours, with a limited sea-transport, some vessels measuring 30 tons and not even decked, was able to provide warm clothing and abundance of wholesome food for her soldiers." In the treatment and condition of the sick the French had all that was necessary; the English had nothing, beyond a few miserable huts converted into hospitals, which possibly enabled the occupants to survive a short time longer than would have been the case in the open. The English sick rarely left the hospitals, a circumstance to be accounted for by the fact that very few of our men were really sound. The men were worked in the trenches, where they struggled against fatigue and the constant fire of the enemy, supported by that indomitable pluck which forbade them to give in as long as it was possible to stand up, and when they succumbed they were borne to the hospital, where death stood before them.

As the winter wore on the improvement in the state of the British Army, if any, was small; but perforce our soldiers, for lack of strength, were relieved by our allies from some of the duties of the siege. On the 23rd January (1855), in the hope of saving the remnant of the Brigade, the Grenadier Guards received orders to march from their camp on the plateau down to Balaclava, to be followed immediately by the Coldstreams, and then by the Fusileers. They had suffered severely at Inkerman, and had been so reduced by losses in action and sickness, that it had been necessary to exempt them from picquet-duty soon after the 5th November, though they still were on duty in the trenches. They were encamped at the head of the harbour, and were thus removed from active participation in the siege, but they were in constant expectancy of decisive action. The French had previously undertaken the siege-works and ground on the English right, which was strengthened so as to guard against all risk of a *coup de main* against the allied Camp. Canards had been constantly flying about the British head-quarters for a long time; all kinds of sensational stories were permitted to take wing; but with a very few exceptions they proved wholly unreliable. One of the most high-flown was a statement said to be received from the highest authority, that the enemy were nearly destroyed by sickness, and had lost all their artillery and transport; and yet very shortly afterwards they appeared before Eupatoria with 30,000 men and 60 guns!

Writing on the 2nd February, 1855, Arthur Hay animadverts upon the want of precaution on the right and right front of the British, and wonders why the enemy had never attempted any serious attack against either. The town was enormously strong, and if the fire succeeded in silencing the enemy's batteries, it might be possible to storm; but the roads were bad, the transport had broken down, the ammunition was not yet up, and the enemy were in sufficient strength to threaten the British rear; "altogether the position seems to be too anomalous to justify my offering any opinion on the subject." The officers and men of the Naval Brigade, he says, "have shown themselves the most useful and the least troublesome people during the progress of our siege operations. They stand the weather better than the troops, they fetch up all their own supplies, and are the only real good gunners we have."

"You would suppose from the papers that no one was let into the batteries, that no spy could pass, because a Mr. Hamilton was made prisoner. A dozen Russians might walk from one end of our attack to the other and not be questioned; we have not got a single sentry in the batteries; there is no plan of action there, no rules. The officers who command from twelve to twenty-four hours are taken by roster; they may have arrived from England the preceding day by ship, and be put upon the trenches the following one. It requires several visits to find one's way about in daytime, to judge of the fire, what it means, where it comes from, to learn the lay of the ground, the intricacies of the ravines, &c. There is no plan of defence in the trenches; that is, the field-officer uses his discretion. There is nothing in the army to augur success beyond the courage of the men and regimental officers,—absolutely nothing. This I believe to be superior to that of the enemy; but some day we may be put into a difficult position from which courage will not extricate us. Our people are running down the French because they are not so foolhardy as we; and certainly when the French attack the Russians the latter always get the best of it. At first the French may drive them back, but in the morning all you can see is a certain number of bodies, and the enemy occupying exactly the same position they held the preceding evening. But then we have never been treated as the French have all through the winter. They were exposed to continual sorties, being within 100 yards of the enemy, whereas ours have never until lately been within 1200 yards; and our 'attack' was so palpably a feint, that it was never worth while to waste men against us."

Not very long after the withdrawal of the Guards from the front to Balaclava, a sharp affair occurred between the French and the enemy on our right, the point in dispute having come into notice a short time previously under the name of the Mamelon. It has just been mentioned that after the battle of Inkerman the French took over the ground on our right. They began to work up towards the Malakoff; but in their way lay the hill in question, which became an object of interest to both French and Russians. The former advanced rather further than was approved of by the Russians, who at once commenced throwing up a work on the hill for the purpose of entrenching themselves there, so as to erect a redoubt to enfilade the French approaches. It was determined to make a night attack on it with the 2nd Battalion of Zouaves, supported by the Marine Infantry.

In reference to this attack, Lord Arthur writes that he "feels shy at giving his opinions where every thing is carried on on such odd principles." "I know the ground, and I know the Colonel of the Zouaves who commanded, and who is a first-rate man. He was quartered with us in the front, and is our most intimate friend, and, for a Frenchman, is a very extraordinary person. The facts are, that the French were pushing on an attack from the redoubt, upon the left flank of the Tower. They pushed it to a certain extent, when, having declared their intention to be serious (for until then the left was the real attack), the enemy determined to oppose it. In one night they threw up a counter work; and on the night, or, rather, morning, the French attacked the works. The Zouaves went right in, led by Colonel Cler. The enemy were prepared. They opened a very heavy fire from two bodies of infantry, drawn up in readiness on the flanks of the work; and into the works they poured a fire from Round Tower and ships. The 'supports' of the Zouaves (Marine regiments) ran away to a man; and the Zouaves retired, having behaved splendidly, losing 20 officers and 500 men. General Demonet, who was in command, was hit in five places. The Colonel of the Zouaves, Colonel Cler, had his clothes riddled. He said of his Zouaves, that 'he would engage to take them anywhere, but he never would engage them to hold what they had taken.' The results are these: the enemy perfected their work, armed it, and since have thrown up a *flèche* several hundred yards in front of it. Nobody doubts the gallantry of the Zouaves, and no one doubts the complete success of the enemy. Colonel Cler is quite honest about it; and he called his generals every sort of name for sending his regiment at the work in the way they did. The attack was fully expected by the enemy; they were in no way surprised; their chief loss was from their own shells. Cler said, 'I can answer for it, my Zouaves did not shoot a man; they bayoneted a few in the work, that was all.'"

Arthur Hay watched events closely, if not hopefully, and his letters abound in information and comments on the seige. Writing, on March 16th, from the camp at Balaclava, he dwells at some length on the probabilities of taking the town. He could not say that it would not be taken, when he bore in mind the brute courage of our men, which had no limit, but at the same time he entertained grave doubts whether it would fall. In the state of defence then existing, any troops attempting an assault would be crushed by the enormous fire which the enemy could bring against them. In an engineering point of view, the Russians had most decidedly the best of the position, and, what was worse, were rapidly increasing their outworks. In numerous instances the dilatory nature of the British movements contrasts most unfavourably with the skill and energy which marked the progress of the Russians. Even the Engineers themselves scarcely knew when and from whence they were enfiladed by riflemen. As an instance of this he mentions how he and a brother officer had a narrow escape: they were standing at the angle of an approach with an Engineer, he "having assured them that the parapet was quite high enough. This was certainly true the evening before; but during the night the enemy had thrown up cover for riflemen, and in the morning the whole of the trench was enfiladed. A storm of bullets came whistling around their ears, and they made the best of their way to a safer quarter."

The boldness of the enemy in throwing up cover for their riflemen was remarkable. "They usually made a strong sortie at night upon a trench as we were working at it, drove the covering party out, and then erected low semicircular works, with gabions and sand-bags, within 60 yards of the trench. If it were attempted to drive them out of these, they brought up reserves, and a regular action in the dark ensued. When daylight broke the enemy opened fire with their big guns to cover the ground, the result continually being that the rifle-works remained with the enemy in the morning."

"Somehow," writes Arthur Hay again, "the Russians always strike the right place. They know perfectly well that we cannot advance our 'Right Attack' until the Mamelon is taken. The French have not advanced a yard during the last ten days, because the enemy oppose them. We cannot advance because we should be taken in flank. Our fault is want of vigour. There is no doubt that when bayonet meets bayonet we can beat the enemy, but we do not accept the opportunities. With respect to the Mamelon it is the same thing; we ought to have taken it before it was fortified. We must end by taking it; but now it is fortified we cannot take the Tower without first taking the Mamelon. It was unfortified, and we declined taking it. Now it is fortified, and we are prevented doing so. One thing we frequently hear said, 'Oh, whenever we think fit we can shell them out of the Mamelon work.' I don't believe we can shell them out; but in the meantime we have let the work be made, and we *have* to shell them out: it remains to be done. It is a new work, begun under our eyes and finished under our batteries, which were erected to silence works several hundred yards to the rear of it. This one is a lasting monument to the science, courage, and energy of the Russians, and to our disgrace."

On the 2nd of April, 1855, he wrote:—"I saw Peel to-day; he is to have charge of the naval guns on the right attack; he took over charge yesterday, and has already protested at the state of his batteries; they are simply not shot-proof. I guessed this was the fact from personal experience; but this protest is a confirmation of my surmise. To begin with, in one essential in a battery, namely the cover and protection given to the guns and crews, we are not in a proper state to compete with the enemy. Working parties have been promised, and the work of repairs, to a certain extent, will be performed. I will not trouble you with the reasons why our batteries have been allowed to become so insecure. The enemy are acknowledged to have more guns in position than the Allies. This is a fact, which can be established by merely counting, aided by an opera-glass. But we are still going to silence the enemy's guns. Why? Because we *suppose* they have not men enough to man them. But on what is this supposition based, for we know that from 10,000 to 12,000 sailors are in the fleet alone? Oh! because the deserters say so. Can you trust these deserters? Certainly. Now this sounds plausible. But change the attack, and ask, 'Why don't you bring up an overpowering artillery, 100 mortars, say, and reserves for 600 guns, and ammunition in proportion, and then open firing, and go on firing till you pump the town dry of ammunition and disable all the guns?' Oh! because the deserters say that the enemy's resources in ammunition are inexhaustible. Then, how do you expect to silence a superior number of guns, supplied with inexhaustible ammunition? Oh! because the deserters differ; and some say that the enemy have very little ammunition. The deserters differ, therefore, as to the amount of ammunition; why may they not be wrong also about the number of gunners? Well, they may be! And such is the way in which you obtain a fair means of testing the value of, 'we suppose they have not men enough to man their guns!' In my own mind, from what I see, I am certain that the enemy would not place guns that they could not fire. They are far too practical to try and humbug us in that way. I believe they have men for the guns and reserves which we have not. Of the two, I should say that it was we who had not got enough men to man the guns. In fact, we have not; for one lucky shell knocking over a dozen men would stop the fire of that gun, from our wanting reserves." "Whenever we open fire we shall have four disadvantages to contend against:—Incomplete and imperfect protection to our men and guns; a superiority in numbers of the guns against us; no reserve of guns to replace those disabled; no reserve of guns' crews to replace disabled guns' crews. Against this we have set a very powerful and a superior mortar fire. Such being the state of things, are we justified in opening fire?"

Altogether these letters introduce us again to the "masterly inactivity" which marked all the proceedings of our generals in the earlier stages of the war, and in many cases made us the laughingstock, not only of our enemies, but of our allies. "Appointments" to open fire were made each day; but some screw invariably became loose, and they could not be kept. At this period Captain Peel must have been a thorn in the sides of those in authority. Notwithstanding all that the engineers and artillery boasted as to the fitness of the apparatus and batteries of attack, he, without hesitation, reported that his batteries were unserviceable. Every one had been long since prepared for this, but no steps were taken to remedy it; a shot came through the main part on one occasion, and was shown to Lord R. when he went round. Peel volunteered to repair his own battery. With a bad grace the Engineers permitted him, and he did it in one night with his 200 "Leanders." The next disagreeable fact pointed out by Peel was that there were only two guns in any of the batteries which could bear upon the Mamelon, in which there were fifteen. The Russians, with great wisdom, allowed us to build all our batteries, and then threw up others to fire into us. Peel proposed a new battery to be made to play on the Mamelon, which enfiladed one of our best batteries, but was told there were no guns. He replied that four very fine solid 8-inch guns were lying on the beach at Balaclava doing nothing. He was contradicted, but he persisted; and being proved in the right, was permitted to make the battery. Lord

Arthur thus characterizes Peel:—"Peel happens to be a first-rate man; I mean a man that if he lives will gain the reputation of a Nelson: his coolness and courage are of that description which inspire admiration in the men; nothing will induce him to budge an inch for a shot. If a shell falls close to him he stands perfectly erect and cries 'Lie down,' and looks slowly round to see if his men are lying down. When the shell has burst he calls out 'Go on;' and on they go working or firing. His recklessness of his own life is marvellous; he seems to think of nothing but his work; he is by far too extraordinary a man to be appreciated here. If he lives, of which there is a bad chance, and has opportunities, Peel will become one of the greatest men of his time; any one going into a battery under fire in which he is will immediately ask who he is. There are numbers of officers in the batteries who do not care, either from habit or laziness, for the enemy's fire, but none of them have the knack of making every man not care. Peel sets every one perfectly mad. When he arrived in Gordon's Battery with his 200 'Leanders,' the excitement was very great. But this go-a-head character makes him enemies: his powers and qualities are far too transcendent, and he will tower some day over the wretched intellects which have not at present either will or capacity to appreciate him."

There is a melancholy interest in perusing this truthful and eloquent tribute to the merits of that gallant and accomplished officer.

Early in April, just before the second bombardment, Lord Arthur wrote again:—"There are strong reports that our batteries are to open fire immediately. The object in doing so is not so clear to me; for on the English side the approaches are not within 700 yards. It is difficult to arrive at the grounds upon which the authorities act. Some say that our mortars will be so destructive as to make the place untenable. I fear that the enemy have anticipated the possibility of such a fire, and that during the past months they have constructed bomb-proof shelter for their garrison. It is clear that no mortar-fire will silence batteries, for its accuracy cannot be depended on, and therefore I look for our straight fire to do that." He thought our straight fire, whether round shot or shell, was as good in quality as that of the enemy, but that it was not so in quantity. We had not so many guns in position; the amount of ammunition at hand was inferior, and we had not a sufficient reserve of guns; our parapets were much injured, shot having more than once come through them on the Right Attack. The gabions and fascines were old, dry, and inflammable. The French were impressed with the idea that if the town could withstand five hours' cannonade it could withstand a month, and were consequently anxious for an experiment of five hours' firing. The English idea was to fire away as long as they could; if our fire overpowered that of the enemy, they might mask their guns, and wait till our troops moved forward. That would not be like storming a breach; for our men would have to move over 700 or 800 yards of ground, exposed to the fire we failed in silencing, then find a deep ditch at some distance from the main defence, clamber over it, and then surmount a heavy "*abattis.*"

In a letter from "The Naval Brigade Camp," Arthur Hay gives a description of the bombardment which opened on the 9th of April, and he mentions that his brother John had had a very narrow escape in the trenches that day. Late in the afternoon, as he was speaking to Captain Twyford, a shell burst, killing the latter, and striking Lord John on the lower part of the jaw. Lord Raglan came to visit him, for he was regarded as a most promising officer. Several of the officers from the Naval Brigade got their promotion and went home, anxious to be out of it; but he volunteered, and remained, though only on halfpay, losing no opportunity which was presented of distinguishing himself. To Lord Arthur himself this incident was almost a relief, for he had for a long time laboured under an apprehension that his young brother would certainly be killed. He had seen him several times escape almost by a miracle; therefore it was a relief to have "Johnnie" put out of danger's way, though it was only for a short period.

Respecting the bombardment he remarks:—"The results of our fire have, I am sorry to say, too fully justified my worst expectations. I have never written so strongly as I thought; but what has happened was foreseen by Peel, Morison, Lushington, Johnnie (his brother), Kennedy (an old gunnery lieutenant), and by some of the artillery. We endeavoured, with a smaller number of guns, with guns of inferior calibre, with an absurdly long range, without a sufficient supply of ammunition, with very defective parapets, and without a reserve of guns, to silence the enemy's fire. I think in this sentence I have comprised the chief reasons of our failure; the result has not tended to improve the tone of the army. I believe Lord Raglan offered to attack the place as it is, and that Omar Pasha volunteered his troops, but Canrobert declined."

In another letter of about the same date, we find an amusing account of a false alarm given in camp:—"Our horse-patrols got too near the Cossacks, and a few shots were exchanged: such a scene is curious enough, and has its excitement even for us, for there is something about an alarm and assembly very striking to the listener; it gets one out of bed with greater ease than any other means I know. Every regiment plays it, one taking it up after the other on deep-toned bugles, then the shrill Cavalry trumpets, then the Horse Artillery, then the Rifles, and all mixed up with bagpipes from four Highland regiments; each being at a different distance, the sounds reach us here with different degrees of loudness. The pipes across the valley sound very jolly, especially when they play 'Hieland Laddie,' which means turn into bed again. We have Zouaves and French line regiments with calls which add to the general clang of trumpets—

besides, the Turkish music, the most sickly wretched kind of tune, and to which the men have put the words:—

'Going to die! going to die!
We, poor devils, going to die!'"

In another letter we find Lord Arthur complaining of the *ennui* attendant on inactivity, but in raptures with the loveliness of the flowers that strew the ground in profusion, and the immense number of beetles and splendid butterflies, which made him calmly consider whether his lot in life would not be far happier as a naturalist than as a soldier. "As a soldier there is only one position which in any way recompenses for the drudgery of the life; and that is command. The excitement of a soldier's life is very great; but excitement alone does not satisfy me. I like reasoning upon the causes of things. I like a man such as M ——, who, under the sharpest fire, and with shells bursting around him, sits coolly smoking a cigar and calculating the reasons why some one of the enemy's shells went somewhere other than he thought it ought: in that light a soldier's life is tolerable, because it is intellectual."

In a very interesting letter, 19th of April, there is a long account of the state of the place, in which he speaks in high terms of the enemy. He refers to an offer he had made to superintend and systematize the sharp-shooting in our advanced trenches, which was declined by Lord Raglan, on the ground that it would be invidious to the field-officers in command of the trenches. "In the meantime," he writes, "the Russian riflemen are so emboldened, that it is not safe to walk in the rearmost of our works. One officer and seven men were hit the other day in one battery by rifle-bullets."

A curious circumstance on one of the days during the second bombardment opened every one's eyes to the real position of affairs. "The Russians had not responded with any vigour to our fire; we were firing three and five guns to their one. All of us were cock-a-hoop; the enemy were gradually getting silenced, and so on. In the afternoon, however, a lumping shell exploded the magazine in our 8-gun battery, and immediately the enemy opened a tremendous fire from all points upon the scene of the explosion. There could be no further doubt that they were not silenced, but that they did not choose to expose men and guns, and expend ammunition. We stopped firing the following day from want of ammunition; and the enemy kept up a slow steady fire, just as they have done all along; and so affairs are situated. We are fairly beaten." And so far as the contest between artillery was concerned, no doubt the Russians had not been reduced to silence; but the naval supremacy and the resources of the four Allied Powers were gradually asserting their power outside the Crimea and beyond the limits of the actual siege.

Under date the 21st of May, 1855, he mentions the intention of the Allied Generals to send a second expedition to Kertch, to exceed the former (which had just been obliged to return to port ingloriously) by 5000 men. "The first expedition," he writes, "sailed, with all the circumstances and facts connected with it in the mouths of every soul in Balaclava. It arrived within 10 miles of its destination, and then returned—the reasons for this course becoming well known to the enemy through the London press."

The opinion he formed of the effect of the expedition was that, though the landing at Kertch might be attended with the most brilliant results, it would eventually become necessary to abandon the position, and that any vessels entering the Sea of Azoff, on the strength of the Straits being held in permanence by us, would have to run the gauntlet of the enemy's batteries when returning; but in point of fact our position at Yenikale was never disturbed. The second expedition, which sailed towards the end of May, was completely successful in its object, and, at the same time, the allies in front of Sebastopol displayed great vigour in their attack on the place, and signalized the first week in June by the assault and capture of the Quarries and of the Mamelon. Arthur Hay saw the latter affair, and, writing the 8th of June, he gives the following graphic description of that brilliant feat of arms:—"The French took the Mamelon yesterday at about six o'clock in the evening, and also the two works over the Careening Creek, called the Mamelons Blancs. The English, at the same time, advanced from the advanced trenches of the Right Attack, carried and held a work the enemy were making in front of the Redan, called the Quarries. At 3 P.M. on the 6th the English and the French batteries to their right opened fire on the enemy. Towards night the Mamelon was very much knocked about; the Redan a good deal injured; but the Malakoff remained much as usual; its extreme distance to the rear, and its elevation, saves it. About 4 o'clock on the 7th we opened all the guns again, besides the new batteries on the left and the advanced batteries on the right. The enemy's fire was never heavy or good—nothing to the 9th of April. At about 6 o'clock the signal was given from the Victoria Redoubt to attack—three rockets. The French troops were under order in their advanced trenches; and their supports massed in the ravines. There were 65,000 under arms, and 15,000 were immediately under fire. I do not think the enemy had the slightest notice of our plans, for they never shelled the ravines where the troops were forming. On the signal the French rushed out, cleared the Russian trench without difficulty, and, in a straggling skirmishing manner, ascended the hill on which the work stands. A few Russians showed on the parapets, but the French soon cleared the ditch, and got in at the embrasures. The enemy were then driven out from the work. The French pushed on through the other side, and got right up to the *abattis* in front of the Malakoff. In this they became entangled; a few got through on to the edge of the counter-scarp; the enemy stood up on their parapets and fired down. The scene at this point was very grand—the Malakoff literally vomited fire; our right batteries were playing into it—our mortars shelling it. The Russians were returning the fire with tremendous vigour. It was too much for the French; they came back, the enemy after them, and did not stop till they got to their own trenches. The Russians drove them through the Mamelon, out and back again over the parapet and ditch, down the slope, and into the advanced French trenches. It was a nervous moment. Pélissier, with all his staff, was in the Victoria Redoubt. Supports were ordered up —a hand-to-hand fight took place, and the enemy were driven back in return. Heavy columns of French went round the flanks of the Mamelon hill, and, coming in behind, recovered it. After this I saw nothing, as the smoke was so heavy and darkness had come on. At 10 P.M., June the 8th, I went to the front. The Redan was silent, and the Malakoff firing only one gun. The French still held the Mamelon, and were shelled by the ships, and by the lowermost Russian battery, on the extreme point formed by the Careening Bay and the harbour. Pélissier has been pressed to continue the attack, and try the Malakoff, but declines to stir till he has secured his position on the Mamelon. I think he is quite right."

Two days after the taking of the Mamelon, he availed himself of an armistice, under a flag of truce to bury the dead, to visit the work and the grounds in its vicinity. It appeared to be a lunette, open at the gorge. In the interior a very massive traverse was constructed upon the same line as the largest axis, whereby shot was prevented from passing through the work. The parapets stood 10 feet high, and were very thick; the depth of the ditch was about 8 feet. The work itself was very much knocked about, and filled with the dead, caused by the English fire on the 6th and 7th, and by the casualties which took place during the assault—also with the French who were shelled since it was taken. This fire of the enemy proved very destructive, one French regiment having lost 200 men on the 8th by shells. The Russians would not permit any one to approach the Malakoff ditch, which was reported to be so deep as to be quite impassable without ladders and planks. These particulars were all learned from the Zouaves, who were shot down by hundreds when trying to cross. In Lord Arthur's opinion the French should have contented themselves with holding the Mamelon after they took it. In going up they did not lose 25 men; but when they attacked the second time the fire from the Malakoff was very heavy.

He considered that the position now held by the Allies was so menacing that the fall of the town might be regarded as a certainty. Two courses were open to them:—one, to assault at once; the other, to push the batteries at least 700 yards nearer to them. There was a compromise once more: a heavy fire was opened on the whole of the Russian defences from the batteries new and old of the Allies for several days, and preparations were made for a general assault.

On the 15th of June orders arrived directing the Brigade of Guards to prepare to move to the front. This was joyful intelligence, and the battalions marched up in fine order to the plateau on the eve of the opening of the third bombardment. On the whole the supremacy of the allied batteries was established after three days' fire, and hopeful anticipations were indulged in that the assault which was fixed to take place on the 18th June, the anniversary of Waterloo, would be successful. The attack was made, but it was repulsed with great loss to the Allies at every point; and the Guards, with whom Arthur Hay was doing duty, were not engaged in it. There is no necessity now to dwell on the details of a day which caused such bitter grief and disappointment to the Generals and the troops, and to none more than the Brigade and their officers. Writing on that day, he thus points out the reasons of our failure:—

"The main cause was the tremendous fire which the enemy were enabled to pour upon the troops; they could barely live. A great deal of confusion existed in our assaulting parties. They were too small, and the combinations too intricate; they were brought up badly in driblets, and were never thoroughly formed; when they left the trenches to attack, debouching in Indian file, they were mowed down almost in detail."

The General who had led the British army to victory at Alma and Inkerman did not long survive its repulse from the Redan; and the severest censors of Lord Raglan felt that no braver soldier could be found than the veteran whose last moments, if not cheered by the shouts of a victorious army, were at least brightened by the consciousness that he died at his post. Great sickness broke out in the camps. At the same time the army suffered much from despondency; a large proportion of men were killed daily by the enemy's sharp-shooters and shells; within a period of five weeks the French lost at least 18,000 men. Writing under date the 25th of June, 1855, from on board H.M.S. 'Agamemnon,' where Lord Arthur had proceeded in order to recruit after a severe attack of the prevalent epidemic, he comments upon the difficulties that existed in arriving at any clear idea of the intentions of the generals of the allied forces as to the future. The game played by the enemy was sufficiently clear—he merely kept force sufficient to defend his works on the south side. The garrison was relieved from the army in position, and the casualties replaced by periodical draughts on his reserves. The daily loss of the English and French at this period was what it would be in a campaign in the open, whilst an assault upon a few rifle-pits cost as much as a good battle; altogether the advantages lay with the enemy, who, after all, would lose but little in the event of the south side being taken, and who well knew that this could not be effected without a very heavy loss of life. The 'Agamemnon' was anchored almost abreast of Fort Constantine, and therefore commanded a good view of the rear of the Malakoff, which was completely closed to the rear. It had, moreover, a ditch and a work to cover the bridge, and it was quite possible to see the people going up to and even crossing the bridge. In Lord Arthur's opinion, the Malakoff was the true key to the position. He further thought that our possession of the Mamelon and the "white batteries" ought to give us the Malakoff; but "we have shown no vigour, no energy, no resources, no just appreciation of these qualities in the enemy, and no downright will to take the place. On the contrary, there is no sound or uniform plan of attack, nor is the material we possess made to bear with its full force even if it were sufficient. It cannot be admitted that we tried to take the town as long as numbers of the enemy's guns can be seen without guns on our side corresponding with them. Our batteries are not sufficient in number and are not near enough, nor are our guns heavy enough or numerous enough. The result of all this is, that we cannot keep up a continual fire upon any point we wish to attack, and we cannot subdue the fire of these guns of the enemy, which flank the object of our attack."

There was a considerable change in the *personnel* of the army. After the failure of the assault of 18th June and the death of Lord Raglan, Sir J. Simpson became Commander-in-Chief; and the gaps in the commands caused by death and illness among the seniors were filled up generally by junior officers.

Referring to the newly-appointed general, Lord Arthur gives him credit for one merit at least:—"He is a disciplinarian. Two officers have already been cashiered. I was on the court-martial of another to-day; and I believe two more are for trial. This is beginning at the right end, and I have no doubt that the men will be pulled up also in due time. You will be able to judge if he be as good as his word by the number of court-martials. The new Adjutant-General is a very good man, young and energetic, up to his work and with very proper ideas on military subjects—ideas which to you would appear to be ordinary common sense, but which have as yet been rare amongst our authorities. It is satisfactory to feel that now an officer will be borne out when doing his duty. If I may presume to criticise, our late general's leniency was his great failing, and it led, under the peculiar circumstances in which the army is placed, to great mischief. Under the late rule the most henious military offences were passed over—even crimes of gross insubordination and attempts at desertion. As we now can inflict by drum-head court-martial as severe a corporal punishment as by a general court-martial, those who have the good of the service at heart can ensure punishment and obviate the chances of its remittance."

In the early part of July it actually seemed as if the year would pass without any decided result, and that another winter in the trenches was highly probable. It might be said that "the whole English army was at the moment employed as guard to the works then finished; out of a total of 17,000 bayonets, 5000 were on duty in both attacks; and if there be deducted from these rearguard, general officers, commissariat, ammunition-guards, &c., &c., &c., it becomes easy to judge how severely the trench-duty fell upon the actual service men.

One half of the men in the trenches stand to their arms all night, and all are under an incessant fire." The losses in the trenches were most severe, and proved a constant drain upon the strength of the army. At the same time misgivings were rife as to the competency of many who held responsible appointments. Lord Arthur writes strongly on this point:—"I have no faith in any one out here who at present fills a responsible position. I will relate to you what happened to me the other day. I was Field-officer in command of the covering-party in the night attack and my post on the Quarries. While sitting with some of the Highlanders in a trench, along which we placed 200 men as a guard, to my surprise several shot flew past parallel to the trench we were in, and a straight shell burst at its mouth and sent its pieces past us. It was evident the trench was enfiladed, and I mentioned it to the engineer on duty, who pooh-poohed me. I suggested the propriety of a traverse at the mouth of the trench, but with a similar result. When I came off I reported the fact at head quarters, and the General went down to the place, and decided upon a traverse being thrown up. On the night before last a shot came in at one end, and knocked over thirteen of the Rifles; one was killed, four have since died, and the remainder were badly hurt. I do not understand how engineering operations can be carried on with success when such a simple remedy as that of a traverse has to be pointed out by a regimental officer. But the curious ignorance and self-presumption of our good people is surprising. I was told by a staff officer that these shots were chance shots of the enemy, and not meant for any particular point, though the trench I am speaking of is actually a Russian trench, which we are reversing, and which, of course, is marked in the Russian plan of their defensive works, and of which they have the exact bearings." Lord Arthur occasionally relates some deed of "Derring Do" which happened to come under his observation:—"A shell was pitched about three yards from the mouth of our magazine in the quarries; the magazine was not closed, and there was loose powder in it. One of our sappers put himself in the doorway of the magazine, and coolly waited till the shell exploded, so that if a splinter flew towards the entrance it should have to pass through his body first, whilst at the same time the flash of the shell was prevented from communicating with the powder in the magazine." This was regarded, and justly, as an act of genuine heroism, and contrasts strongly with one lauded by Lord P. before the entire army as an act of daring bravery; and what was it? Lord P.'s hero had taken prisoner a *wounded Russian officer*!

In a letter dated July 13th, he mentions that General Barnard had been made chief of the Staff (he gave up the 2nd Division, to which he had just been posted), and that a telegram came almost immediately postponing the appointment, but too late. He never commanded a regiment, and was known principally for his affable demeanour and a certain pomposity of manner. In Hay's opinion the men of most promise were General Codrington and Colonel Dickson in the Artillery.

About the middle of July Lord Arthur had just recovered from a severe attack of illness, and writes in reference to the reappearance of cholera:—"It is the most horrible disease to witness, that I know of. I go generally twice a day to our hospital tents to see the sick and wounded, and am therefore tolerably familiar with disease of all sorts; but cholera is by far the most frightful. Imagine a gale of wind blowing down all our hospital tents, filled as they were with amputations and crying men, you cannot picture the scene of rescuing the poor wretches from under the canvas and bringing them out into the rain until we got the tents up again.

"This is a curious existence. In one tent, amidst men suffering from every description of wounds, some dying, some just operated upon, some being dressed, it is the cholera case which excites your interest, and engrosses you amidst the stifled moans and groaning of the wounded, and the calls for drink from the fever patients. Close at hand a French band is playing a polka or a waltz, and in the distance the guns are firing; and so we go on day after day with our lives not worth twelve hours' purchase, and with the firm conviction that when sacrificed it will be for no purpose and to no good."

Just at this period, trench-work had become very hot. Latterly the enemy had taken to shell the English advanced trenches considerably, and had also "sortied" upon the French. They lost men by hundreds, the English by scores. The Russians also were losing heavily, as might be gathered "from the daily increasing proportions of their graveyard, which lies in full view on the slope that runs down to the harbour from the north."

The French, under the vigorous and perhaps reckless command of Pélissier, were now pushing forward upon the Malakoff, while the enemy, with equal vigour, were retrenching the work, deepening its inner ditches, and heightening the parapets. In reference to an assault, Hay entertained the opinion previously expressed, that success could not be calculated on until we had brought an overpowering force of mortars and guns to bear on the Malakoff—a fire so overpowering as to preclude the possibility of living under it.

"But nothing indeed," Lord Arthur writes, "can be worse than the conduct of the siege as far as the English are concerned. The gross ignorance of their business, the presumption of those in authority, their reckless stupidity and want of forethought, skill, and determination, are pitiable in people belonging to so arrogant a nation as our own. Knowing as we do the real state of affairs, it is quite sickening to read the accounts in the papers. At this moment, in a military sense, the defence is stronger than the attack. The actual defensive position of the town is stronger than it has ever been, and our attack is not proportionate. The works we have failed in taking are retrenched, though before they were all but impregnable. Batteries of six guns are now batteries of ten; in fact the defence is so magnificent that we cannot help admiring the genius that directs it and the courage with which it is executed. As to the future I have my misgivings; a lucky day may see us carry the Malakoff by storm, as we carried the Mamelon; but if I am to form an opinion from facts as they stand, and regard those facts by the light of the last seven months' experience, my opinion must be unfavourable to our prospects of success. The English army is not commanded. General Simpson does not command it; each General commands his own division, and squabbles with the next General—all counting upon General Simpson's breaking down, look to the command for themselves. The love of the service, the advancement of the Queen's service, the gaining of the object for which we are striving, are secondary considerations in the minds of nearly all out here. Personal reward, personal advancement, are all that most officers think of. Writing on the 2nd of August, 1855, Lord Arthur is of opinion that the allies would possibly abandon the heights they had occupied, and take up the position which had Balaclava for its right, Kamiesch for its left, and the sea for its rear. It might be that in this position the approaching winter would be passed, and in spring a move would be made to some other part of the Crimea—Eupatoria, Kaffa, or Kertch. This would be virtually an admission of our inability to take the south side, and would bring κῦδος to the Russians. But he never supposed that we could not drive the enemy from the south side if we tried in earnest to do so; he only repeats that we never did try. The operations of the English army were carried on without any given plan, without combination, without concert, without determination, without secrecy. "It seems difficult to believe that a closed work like the Malakoff could stand the shelling and fire we could have brought to bear upon it; but we have not bestowed more fire upon it than upon many other points of a very secondary value to the enemy." What impressed him so forcibly was our constant neglect in availing ourselves of the resources we undoubtedly possessed, frittering them away on most useless experiments. On one occasion 320 shells were fired in the course of the night, "to please an irritable and foolish General of the trenches," the only result gained by us being the killing or maiming of a few score of our men. If the same number of shells that were wasted on this occasion had been thrown into one point of the Malakoff, some sensible harm must have been done to the works. Again, if the whole number of shells expended by us in the siege had been expended during a week's or a fortnight's shelling on the Malakoff works, is it not likely that they would have been rendered untenable? All through the superiority in artillery of the enemy was most marked; we never approached to an equality with them; taking the siege day by day, we never opened fire with an adequate power of artillery. And why? Because, in the first place, sufficient material and men were not supplied by the home government; and, secondly, because the authorities on the spot applied the material they had foolishly and improvidently.

"The past, however, speaks for itself. The plan, if attempted, of abandoning the heights and making a retrogade movement sufficiently condemns it. There is some rumour of an extended attack on us; but I do not fear that any such will take place, unless it is made upon our lower front, and even that I do not think could succeed. I do not for a moment suppose that we shall permit ourselves to be surprised on the Tchernaya. The French hold the ground and all the ticklish outposts, and they are too good soldiers to be caught napping; at the same time there is no reason why a desperate battle should not be fought on the Tchernaya, and a simultaneous attack be made on our lower front with the object of preventing our going to the support of the troops in the valley. If, without gaining any victory, the enemy succeeded in putting some 10,000 or 12,000 of the allies *hors de combat*, an assault could not be made on the town; the retreat would always be secure, for we cannot move. These days are not those of the Peninsula, and English armies of the future are only to move by railways. Considering the scientific age we live in, and that we are engaged with a barbarian enemy, it does not seem very creditable that the barbarians should beat us in the most scientific of all military operations—a siege and a defence."

The next letter, under date the 27th of August, is written from "Head Quarters, 1st Division Camp," Lord Arthur having been named Assistant Adjutant-General, an appointment which gave him more to do than moralize, and suited him in every respect.

The duties were occasionally very trying to the temper; the duty of "blowing up" a Division constantly devolved upon him, and created many unpleasantnesses; and Lord Arthur was frequently obliged to draw largely on the stock of patience which he naturally possessed. An equable temper, however, and strong self-reliance proved sufficient to overcome all difficulties.

Since the arrival of the Guards at the front Lord Arthur was fortunate enough to be twice in command on the Right Attack; and he had 2800 men under him, and the arrangement of all the details, which were both numerous and complicated. The mere tour round the posts after dark was very fatiguing, the distances being so great. Trench duty had one advantage—it disclosed to a great degree the discipline and character of regiments, there being ample opportunities for false alarms and panic, and also a great deal of delicate sentry work and outpost duty. He tells an amusing anecdote as to this kind of duty. He had orders to occupy a post, which up to that time had been held by the enemy; they retired before fifty of the Rifles detached for the duty. That regiment was first-rate; when it was in front all ground for anxiety was removed. It was but fair, however, that each of the other regiments should occupy the post of danger in turn, and the 72nd was put forward. This regiment was quite young, and composed of Scots from the small towns; "in fact an insubordinate lot." In making his rounds, Lord Arthur caught a boy asleep on duty, and spoke to him very sharply. "D'ye ken, Wally," said an old comrade, "that yeer liable to fufty afore brakefast if ye gang to sleep?" "Aye that I do! But it's jist hard that a man mayn't gang to sleep when he's tired."

There is a hiatus in the letters here, and there are no full accounts of the final assault on Sebastopol and the evacuation of the south side by the Russians on the 8th of September, which may be accounted for by the interest which attached to them, so that they were passed from hand to hand, and were never returned. "I do not believe," he writes at the end of September, "that in the whole annals of the English army there was more disgraceful conduct shown than by the Light and 2nd Division on the 8th of September. The French attacked the Malakoff with the same regiments and brigades that captured the Mamelon, that had already repulsed the Russians, and consequently thought no Russian could stand against them. Pélissier sent his next best troops against the other works; and though they did not succeed their behaviour was splendid. Men cannot do more than die, and the French died by the thousand at these other points of attack. I cannot put the French loss at less than 12,000 men. The Redan on the 8th of September and on the 18th June was not the same. On the 18th the enemy was prepared, he had not suffered the immense losses by bombardments he did before the 8th September. Our power of fire had been daily increasing. When once the Malakoff fell there was no fire supporting the flank of the Redan nearest to the Malakoff. Many of the Redan guns had been silenced by the previous bombardment; its parapets were very much shaken and broken down by our fire; we were much nearer to it, and had plenty of trench to put troops into. I had observed that for some weeks previous to our assault the enemy did not show the same vigour and energy in repairs that formerly characterized them. Notwithstanding all this I do not think that we should have succeeded if the French had not surprised the Malakoff. The Russian general in it said that the engineer had reported to him that morning that there were no unusual movements in the French trenches. The skill with which they disguised their intentions and massed the number of men they did was very great; 25,000 were told off for the Malakoff works to its right. The gallantry shown by the French general and his officers was quite refreshing in these matter-of-fact and unchivalrous days. At half-past four P.M., when the enemy made their final attempt to recover the Malakoff, Vinoy went to the gorge of the work and called out, 'En avant Messieurs de l'état-major, épée nue!' I cannot help admiring the French troops—they are heart and soul soldiers." "The simple fact is, the French are soldiers, and we are not; their generals would not tolerate the humbug that is practised in our army. If we were going to build a town we could not require a greater amount of superfluities than our army has served out to it; the result is, that we are incapable of moving, and we sink into a very indifferent contingent to the French."

The next communication is dated from the 1st Division Camp, October 2, 1855, more than three weeks after the fall of the Malakoff and the repulse of the English at the Redan. Lord Arthur still felt keenly the failure of our troops on the 8th of September. He refers to a report that troops were to accompany the fleet in an expedition to Kinburn, and that the English would probably send a Brigade consisting of Highlanders. As these regiments never had any opportunities of doing any thing, that would give them a chance. They were all in fine order and condition, not demoralized by the loss of men and officers, but much more like English troops than other regiments of the line. "For these and other reasons it should have been the Highland Division (comprising as it did two strong regiments just arrived from England, and one that had done little trench-duty) that was sent into the Redan, which, with the Guards in support, would have carried the work easily enough after the French held the Malakoff." General Vinoy asked Lord Rokeby, "Do you know what the French army says is the reason that the English were so beaten at the Redan? They say that it was the fault of General Simpson in sending his worst troops instead of his best to the assault. He sent a division which had been *culbutée* at the Alma, and which had been beaten at the Redan once before, which was made up of recruits that were mutinous as well as cowards. Moreover his two assaulting divisions were commanded by generals 'qui ne voulaient pas sortir des tranchées.'"

After the fall of the south side, and the consequent end of the siege of Sebastopol, the allies were free to strengthen their position at Eupatoria and Kertch, to take Kinburn and to meditate other enterprises; but there came a lull in the operations against the enemy on the plateau, and towards the close of 1855 the Army before the town was heartily sick of the war—the men bored with the inactivity of the life in camp, and the officers anxious to go home. In this state of things nearly every one was looking most anxiously for peace; but that was a remote probability, at least till the spring. Arthur Hay, however, was not one of those, as the country was at war. "This is a sentiment little shared in by the army, and of course not at all by those who are hurrying to England. And yet there is little in England to inspire feelings of chivalry and patriotism. A lot of lazy idle rascals in arm-chairs writing criticisms on the conduct of the troops in moments of danger, which not one of them would face if out here! Your observations as to Colonel Windham astonish me; you say, he must be a fine fellow. Do you not think, for one instant, of the 160 officers killed and wounded who were doing as much as he? Do you not think of the other Brigadiers who were wounded while he remained untouched? Are they not deserving of equal admiration? Windham showed no aptness for war; he simply did not run away altogether. He did leave the 'Redan;' and there are men here who say he ought to have remained; for the moment he left it, all the men who stood bolted. However, his courage was equal to that of others who lived, but not so great as that of those who died or were wounded, for they did not go back as he did. It was not equal to that of Colonel Yea, of the 7th Fusileers, on the occasion of the former attack on the Redan, who, single-handed, went up to certain death saying, 'I call on God to witness my men have forsaken me;' or to that of Sir John Campbell, who went up to the ditch alone, and was shot dead where he stood. Those men would not go back; and somehow I respect them more than others who did." "Not a single outpost is held, of which the French naturally complain. Lord Panmure's employment is that of sending out lecturers at £200 a year to teach the soldiers chemistry; schoolmasters are on their way, school-houses are ordered to be built, Miss Nightingale wants larger churches to be erected, and in the mean time the men are for the most part in tents, as the huts that were supplied were blown down. The men's clothing is of the very worst description—stockings of the most flimsy kind, flannels wretched. Our transport animals are necessarily exposed to every kind of weather from the want of planking to make roofs for shedding; the men on duty are put into the worst kind of tents; and yet all these evils remain unremedied. When planking and tar are asked for, chemical lectures are offered; and instead of good stockings and flannels, magic lanterns are sent, and globes as well celestial as terrestrial."

As the winter set in, officers and men had still something to complain of. The majority of the latter in Arthur Hay's division were under canvas, the huts being useless. Lord Arthur was totally unprovided with warm clothes; they were lying in Balaclava or possibly in London—most probably the latter, for an officer had just arrived who had seen them a month before in the London store, waiting to be shipped. The scanty clothes in which he weathered the storm were in tatters. This touched his susceptibilities. The General of his Division was a "dandy," who prided himself on good form in attire. The only consolation left to the Assistant Adjutant-General was to read over his tailor's bill, which told of things that would in time "make him a tearing swell," and to call on his imagination to picture what "A superfine blue cloth coat, richly braided—and lined with scarlet," and similar articles, would make him look like when he got them.

He felt much gratification at the bestowal of the K.C.B. upon Lord Rokeby. "Had he been sent at the Redan, he would not have come out alive and beaten."

Rumours of peace and of an immediate return of the army to England were rife in camp. Such rumours were not grateful to Lord Arthur. He was not dazzled by the glitter of stars or ribbons, but fully appreciated the charm of substantial rank, in the train of which all gauds and decorations would follow. Whilst he was with his division in the field, every day counted towards his full colonelcy. After all that had been accomplished, the desired goal had not yet been attained.

Note.—At the close of the year the Russian forces in the Crimea numbered 100,000 men.

In a letter written from Sebastopol, towards the end of February 1856, he dwells upon the lamentable fact "that all prospect of war was over," and describes the anxiety of his comrades to get away from a place so uninteresting. The recent review of the army by Sir W. Codrington was, he says, "a fine sight, and most gratifying in many respects. It was gratifying to see the number of men under arms, their perfect health and good condition, and the absence of fuss and hurry on the part of the Staff. Eight regiments were absent, and all the Sebastopol guards and duties naturally, and still we showed 20,000 as fine infantry as you could wish to see. Pélissier said that he did not mind reading the names of our victories written upon our regimental colours when he saw what big men surrounded them. It was surprising to see the way in which six divisions were handled and moved about without confusion, jumble, or mistake, like so many companies. The First Division came up to its points as steady as a rock, not an inch of ground too much or little, took up its position stunningly, and looked stunning, considering that we miserable, wretched, poor ignorant staff fellows have never been educated at a military school, and that we have nothing to recommend us beyond a gentleman's education, service in the army, and a little common sense. My old regiment marched past at the head of the army with a front of fifty file. The Grenadiers turned out 797 men on parade, exclusive of sergeants, &c.; all the Divisions looked splendid, but the Brigade of Guards, as usual, was the first. It is often a matter of speculation to me what cerebral want is in the intellectual cranium of the English which makes them so anxious to destroy all that there is of good remaining in their institutions. I am credibly informed, and by men whom I cannot disbelieve, that certain individuals in England, who are reputed sane upon most subjects, are desirous of destroying the prestige, the name, and the very existence of the Brigade of Guards. Who are these maniacs? Who are the fools who, instead of striving to raise the standard of the Line Infantry to that of the Guards, are for pulling down the Guards to the level of the Line? As a soldier, I cannot, of course, but regard this tendency with the deepest regret. I know too well how great the advantages are of having select picked bodies of men like the Guards—men who set a good example in the army, and who are a cause of jealousy and emulation. There is no incentive so good as jealousy. Its effects on an army are wonderful. Every regiment is trying to march past better, to shoot better at a target, to do their duty better, and to fight better than the Guards. Instead of this, it seems the wish to establish throughout the army a universal standard of mediocrity. There was a shooting-match the other day. I brought down two Guardsmen as our champions; one only was required to shoot in the match, which, I need scarcely add, was won by his side, and his shooting was the best. An officer in the Rifles stepped out after the match was over, and said he would bring a man who would beat any Guardsman. He had the pick of the whole army, we of only three regiments. His man was a sergeant of Rifles, ours a private of the Grenadiers. The private was naturally nervous, shooting against a crack sergeant of a crack regiment of good shots, and he shot below his *form*, but he beat the sergeant and won the prize. The Rifles are first-rate troops; they and the Guards are the only two corps who have preserved any of the old *esprit* which, born in the Peninsula, has done so much to make our regiments so excellent. *Esprit de corps* is the first essential in a regiment; and yet every thing done in England tends to destroy it, and to make one regiment like another. The utter want of a just appreciation of the value of *esprit de corps* was shown at the attack upon the Redan. Detachments of 100 men from each regiment were formed into the assaulting columns, and no disgrace attached to any particular regiment if it failed. But enough; the people at home are fools, babes, sucklings upon military subjects. We received the notification of the 'New Order' that was expected with shouts. There is such complete want of confidence in the home authorities upon all military subjects that this new decoration creates little pleasure, though much ridicule. It is universally styled 'the Order of the Gladiator.' We all feel so certain that it will be grossly jobbed, given to undeserving men, like the 'Bath,' or given upon the outcry of a newspaper, and not to real merit, that no one looks forward to it. The principles that are to guide English troops to victory are less stern now than in former days —'Glory.' 'La gloire' is a word common with the English army, and has almost entirely replaced that of 'Duty.' It *was* a boast of an Englishman that the Great Duke never used the word glory in any of his despatches or general orders. The fact of a man doing his duty now-a-days is not sufficient reward—he must have a bit of sky-blue or pea-green ribbon to mark him. As Indians are estimated by scalps, so are our troops by the number of ribbons they can show. Of the two I would have a soldier being made to wear the scalp of the man he killed in preference to his wearing a star. In that there could be no mistake."

The review of the 'Land Transport Corps' caused him to break out thus:—"Absurdity was stamped upon every thing connected with it: the dress, the staff, the carts, all were ludicrous and ridiculous. The proverbially enormous baggage-train of an Oriental army sinks by comparison into insignificance when compared with what we should have had had the war continued. It would be impossible to move encumbered by such a host of carts and material. We should, it is true, lose three fourths of them in the first fifty miles' march, and so be delivered; that would have been some consolation. A. is an impostor, theoretically clever, practically a fool, like B.; but, lest I should wax personal, I must stop."

He draws, in another letter, an amusing picture of the marked difference in subjects of discussion which ruled in the camp and those which were in vogue some time previously. "*Then* the arguments waxed hot and ferocious as to the flash of 13-inch shells, their maximum velocity with a given charge of powder, the area of explosion, &c. &c.; *now* the conversation turns altogether upon home subjects, such as the game-laws, liberty of the press, considered as a social question, and its dangers and abuses." Although peace was considered as settled, and Russian officers circulated throughout the British camp, the English had not yet obtained permission to cross the Tchernaya.

Two ladies, whose names need not be mentioned, accompanied by their husbands, came to see whatever was of interest, made themselves thoroughly agreeable, gave no trouble, and fully appreciated the skill of Lord Arthur's *chef*, and the quality of his Perrier-Jouët and Chambertin. One of the ladies expressed a desire to visit the Flag-Staff Battery. When the party was riding towards it a rat crossed the roadway. When inside the works, Lord Arthur called out, "Here we are in the midst of the famous '*Bastion du Mât*!'" And then he did the *cicerone*:—"Look at this! See that! How wonderful this is!" (pointing to different objects).

"Ah, Lord Walden," observes one of the ladies; "I saw such a huge rat crossing the road just before we entered. Is it not funny?" This was the only remark elicited from the ladies by the interior of the Flag-Staff Battery.

The soldier's work was done, and there was full time for criticisms on the whole campaign. It was urged in the 'Times' that the North Forts should have been attacked. "The guns on the north side actually in position have been counted, and they number 1000. These are all heavy ships' guns. The position is impracticable by nature, and never could have been carried except by being turned. To turn it must have caused a change of the base of our operations. I have ridden over the whole of the enemy's position, and examined the ground carefully. My conclusions are that we were wise in not attacking it. The Russians have told me that our generals showed great sense in not attacking for several reasons. If we had attacked and been repulsed what would have been the effect upon the terms of peace? It must never be forgotten that the Russians are first-rate soldiers, and that the capture of the Malakoff was a perfect fluke. If the gorge had not been closed the French never could have held it. It was closed after Todleben had retired on account of his wounds, and all the Russians speak of it as the great mistake of their defence. In order to realize the difficulties that existed, it would be necessary to visit carefully the ground near Sebastopol; that would show what gigantic works were left by the enemy, and with what consummate skill the ground was defended. As a matter of fact the position was to be taken, but not by storming the heights. A change of base with a campaign was requisite." He amused himself by endeavouring to trace how the continued blundering of the Allies and their want of energy had in reality conduced to great results.

"The enemy gave us the greatest credit for our tactics and our policy, which would have been deserved had our conduct of the war been the result of a forethought; but Fabius himself would not have dreamed that refusing to take a town which was at first at our mercy would eventually cripple an empire. The enemy have admitted to me their losses at 500,000 men. Who could have foreseen that it would have required such a sacrifice to defend a town for ten months? If we had taken Sebastopol the day after our army first appeared against it, a host of lives would have been spared to the enemy, and I doubt whether peace would have been effected so soon."

He expressed great pleasure at the defeat of Government on the Kars question, and that the allies had been saved from undertaking a campaign which must have been made with an army powerful enough to beat the Russians at all points. "And where," he inquires, "is the army able to do this? It is clear that the English army could not. I say an English army, because that is a peculiar body. It consists of men who must be fed, clothed, and housed, at more expense and trouble and with more luxury than labourers at home. An English general has not only got to provide rations and forage for fighting men, men available on the day of battle, but also for hosts of persons of all persuasions—newspaper correspondents, pathologists, telegraphists, sanitary commissioners, army-works corps, and every kind of useless vagabond that chooses to take it into his head to encumber an army. 70,000 men is the strength I have more than once seen the English army estimated at in home speeches and newspapers; but for *men* read *mouths*. Some 70,000 rations are daily consumed; but when we were at our greatest strength, how did we stand on the ground? With a sick list surprisingly small, we showed nearly 28,000 infantry. In five marches this strength would really dwindle to 20,000. Put the artillery at 2000 and the cavalry at 5000, and you have our actual strength on the day of action at 35,000 instead of 70,000, or just half. March these men 50 miles, and what with sick, baggage-guard men left at depôts, and other casualties, the army would have dwindled, in round numbers, to 25,000 men of all arms. No person is better aware than I that an English army has a defective organization; but it is because its system is not purely military. The whole object of a military system (and the best test) is to put upon the field of battle the largest number of effective troops. This ought to be the sole aim of a general. It is with this view that he will take care of his sick, because on leaving hospital they return to his ranks as reserved soldiers. In war humanity is a secondary consideration. Fortunately humanity is good and the best policy; and a good general will always feel it as his interest to feed his men well, so as to prevent their falling sick, and thus guard against reducing his strength on the day of battle. Our army will never be worth much until its members are all *bonâ fide* soldiers—all men trained to the use of the rifle, and made subordinate by at least a two years' service under the restraint of military discipline. But of this I despair. Within a fortnight after your reading this letter I hope to be able to chat better stuff than I scribble."

The departure of the troops was approaching. Lord Arthur formed the idea of returning to England through Russia, and in the interval made arrangements to try to effect an exchange into a line regiment in India or the Cape. As long as the division was complete he declined to take leave; but he now contemplated a start for the interior of the country. The war had closed too soon to confer any benefit upon him, except, perhaps, that he had served ten months towards the completion of the three years necessary to give him the rank of full Colonel, and that he had received the Medal and Clasp for Sebastopol, the Sardinian War Medal, the Turkish War Medal, and the Medjidié. Since he landed he had not been absent from duty a day, except when suffering from cholera. At the close of May the 56th regiment had been taken away from his division; the 9th and 13th had already embarked, and the 30th was in daily expectation of orders; the Guards alone remained. He found himself obliged eventually to relinquish his grand Russian tour; but he carried out his project of a run through the interior of the Crimea, and accomplished the ascent of the "Chatar Dagh." The summit was gained with difficulty, but it was enveloped in a sulky mist. He waited for two hours, and then, giving it up as a bad job, descended; but scarcely had the bottom been reached when out burst the sun in full splendour, driving the rolling mist before it. Without losing time in vain regrets, he recommenced the ascent, and was rewarded by a glorious view.

We have now exhausted the series of letters addressed to his father and other members of his family by Lord Arthur Hay with unfailing regularity during the siege. It is not for a moment claimed that they throw any new or startling light upon what has been so familiar to the world for nearly a quarter of a century; but it is of interest to record the impressions the conduct of the war made upon the mind of one qualified to criticize military operations, whose regard for stern truth was proverbial. It must occur to those who peruse the letters that the writer rarely pronounced his opinion on any matter connected with the siege without first considering the bearings of the case with calmness. He did not hesitate to accord praise when it was merited, but at the same time he never shrunk from finding fault when it was deserved. He often saw high commands entrusted to men he knew to be incompetent; but he only spoke of such errors with regret as tending to prolong the struggle. He never spared himself when duty was in question. His great anxiety was for active work; his great punishment was enforced idleness. Perhaps the best testimony to his character and capacity as an officer is to be found in the following letter from the veteran chief who survives him, which was written to his widow very recently in answer to a request that he would let her have any letters of her deceased husband which he might possess, for the purpose of this memoir. Having informed Lady Tweeddale that he had always made a point of destroying letters, the writer says:—

"I had not lived on intimacy with Arthur before he was appointed A. A. G. to the division I had the honour to command in the Crimea; but from that date for upwards of six years we met nearly every day, and I enjoyed ample opportunity of judging his ability and character. Of the first there could be no doubt. He always performed his duty with the earnestness he subsequently pursued every subject that interested him.

"I believe that the quality I prized most in him was his truthfulness.

"I know that in discussing any question of difficulty which might arise in the course of our service, he would certainly tell me exactly what he thought, whether it was likely to tally with my opinion or not.

"I do not recollect ever having seen him give way to temper, and I always found him most considerate and just about others.

"You may easily believe that these virtues generated and confirmed the feelings of respect and affection I entertained for him, and cause me most deeply to regret that his death should have removed him from the high position he was so competent to fill to the advantage of all connected with him.

"I trust that you will not think me presuming, if I beg you to believe me,

"Very sincerely yours,
(Signed) "ROKEBY."

It may not be out of place here to say that for the character of his General the greatest respect was ever expressed by Arthur Hay.

On June 12th, 1856, he wrote from Athens, where he had just arrived by the French mail-boat, intending to go up the Adriatic by one of the Austrian steamers to Venice, proceed to Verona, and then enter Switzerland. Athens did not please him—that is, "Modern Athens," "a most filthy, dull, stupid, unwatered, dry, abandoned place;" but he was delighted with the ruins and the scenery. A visit to the interior of Greece was impossible, as brigandage was the order of the day; and he was obliged to content himself with excursions to the objects of interest in and around the capital.

Leaving Athens in a few days, he coasted up the eastern shore of the Adriatic to Venice. He writes with great enthusiasm of the beauty of the Dalmatian coast, with its thousand islands, deep bays, rocky mountains, and old Venetian towns; and draws the skeleton of a rapid tour which he had planned taking through Croatia, with the intention of reaching England early in the autumn of 1856; but it would seem that he was not enabled to carry it all out, and that he arrived at home somewhat sooner than he anticipated, after a brief run through the north of Italy and Switzerland on the way.

When he reached England the controversies which had been aroused by the conduct of the war had by no means died out, and the outspoken criticisms of the Guardsman were listened to with astonishment by the large section of society which had made up its mind to believe that every thing was for the best; but the action of the Government of the day and the investigations of Parliamentary Committees proved that our system was unsuited to the time and to the strain of European warfare, and that the best men in the country were aroused to the necessity of large reforms. The evidence which Lord Arthur gave before one of these Committees will be found at the end of this sketch; and it will be observed that he then indicated changes in some matters which have since been adopted in military or regimental organization. To his father many of his ideas must have seemed almost revolutionary; and his admiration of our allies must have excited in the veteran's mind something of the same feeling which was expressed by Sir De Lacy Evans, when some one spoke to him of certain matters in which the French seemed to be worthy of imitation:—"Confound the French! Any one who has seen their backs as often as I have done in the Peninsula would be very sorry to take a lesson from them in any thing, Sir!"

In less than a year after his return he married Hélène Kielmansegge, daughter of Count von Kielmansegge, the Hanoverian Minister to the Court of St. James's, a lady of great beauty and admirable accomplishments; and her loss, after fourteen years of perfect happiness, was a blow the effects of which on Arthur Hay, undemonstrative and stoical as he appeared to be in all the actions of his life, were deep and ineradicable, as those observed who knew him best.

With the Crimean Expedition the active life of Lord Arthur in the army came to a close; but his interest in the profession of arms lasted to the end of his life; and in every political or departmental question affecting the service he loved so well, he evinced a disposition which, in spite of his strong conservatism, tended to the introduction of change—that is, to the acceptance of new instead of an adherence to old principles. But he held stiffly to traditions of our army; and, with all his readiness to recognize the value of the factors which were introduced into military calculations by improvements in artillery and arms and means of transport, he maintained his faith in the immutability of first principles as regarded strategy, and, in common with the modern school of fighting people, assigned the highest importance to tactics and internal organization. The taste which d'Aubigny remarked in his pupil for natural history was developed as Lord Arthur advanced in years; and now having ample leisure he applied himself especially to ornithology, which is, indeed, the most attractive of all branches of the great tree of knowledge, on which there hangs so much forbidden fruit. A Guardsman very often takes an interest in pheasants and partridges, though he is rarely given to the study of birds outside the covert or the stubble. Arthur Hay read and watched and examined till he became something more than an amateur, and at last was admitted by the men of the science to be one of them—a diligent student, a close observer, an ardent admirer, and at last a passed master in bird lore.

In 1860 he obtained his Colonelcy, and six years later he retired from the army, having exchanged (to sell) from half-pay, on which he remained from April 1863, into the 17th Lancers.

By the death of his elder brother, Lord Gifford, he became heir to the Marquisate of Tweeddale on 22nd December, 1862; but, in deference to the feelings of his brother's widow, he assumed the second instead of the senior title in the succession, and took the style of Viscount Walden. He might easily have obtained a seat in Parliament, through the family interest, had he desired a political career; but despite his pronounced opinions on most important questions and his conservative convictions, he had a strong objection to the turmoil of popular assemblages and the bustle and intrigue of party contests, and he would sooner have led a forlorn hope than have tried to make a speech at a public meeting.

His disgust at the turpitude of party conflict and at the meanness of the public spirit which permitted the overthrow of Denmark in 1864 and the annexation of Hanover in 1866, drove him to work with increased ardour in the pleasant field of natural history. He felt keenly the misfortunes which had befallen the kingdom of Hanover, in which he had many friends and connections; and he expressed the utmost indignation at the absorption by Prussia of the ancient Electorate, and at the equanimity with which the English people acquiesced in the confiscation of the property and the destruction of the dynasty of a branch of their own reigning House.

As soon as his father was enabled, by the sad circumstance of Lord Gifford's death, to increase his allowance, and give him the means of maintaining his position as heir to the Marquisate, Lord Walden looked out for a piece of ground to enable him to gratify his taste for country life and study, where he could live in quiet and yet enjoy social pleasures and the society of his friends in the metropolis; and after a time he succeeded in obtaining the site at Chiselhurst on which he built the charming lodge called Walden Cottage, where he passed some years of great happiness and usefulness. With his own hands he planned the building, and under his own eye every detail was executed till it was completed in all its excellence, as the perfection of what such a dwelling ought to be. He designed and laid out with exquisite taste the garden which afforded such pleasure to his intimates and constant enjoyment to himself; and as it grew from day to day and year to year, and his care and devotion were rewarded by the admiration of visitors and the wealth of flowers and rare plants, he enjoyed the satisfaction of feeling that he had not laboured in vain, and the contentment which is the best reward of the tranquil pursuits which the "wisest of mankind" (his other epithets may be omitted here) eulogized in one of the most beautiful of his essays. Lord Walden was especially fond of rose-growing, and obtained a high reputation as a successful rosiculturist; but he never allowed his love of gardening to lead him away from the assiduous study of natural history. He entered into correspondence with the most eminent *savans* in his favourite branches of study at home and abroad, and began early, as soon as he had the resources and the time, to lay the foundation of the very fine collection of birds which bears testimony to his knowledge, industry, and intelligence. His influence in the neighbourhood was soon established; and he did much to attract to Chiselhurst the elements of elegant and refined life which the exiled Emperor and Empress of the French found there when they selected their residence in the delightful district which may now be considered almost a suburb of London. But he was eminently alive to the duties of his station, and never thought of his own pleasures, innocent as they were, when the interests of those who had a claim upon him were concerned. He was ever ready with counsel and sound advice to help his friends, and with his purse, as far as in him lay, to promote the public good and succour the worthy in distress. That this is not the language of undiscriminating eulogy, all those who were acquainted with what he did in private and in public will admit and vindicate. Amid all his work he found time to attend the committees of the various clubs to which he belonged, and to assist in the deliberations of the scientific bodies with which he was associated; and when he accompanied his wife on the visits to the country houses where their presence was so warmly welcomed, his opinion on many a question of rural importance connected with the county, or local politics, or social questions, was eagerly sought and generally accepted. His knowledge of the matters on which he gave an opinion was thorough; he despised shallowness, and what he professed to know he mastered in every detail. When he spoke it was with certainty and force, for he did not open his mouth till he had listened or read and thought the subject out; and the same characteristic was observable in him in dealing with such disputes and controversies and magisterial business as came before him for decision. Gradually he secured the honours which, next to those of the profession he had followed, he would have coveted the most. He became a Fellow of the Royal Society, and, finally, was elected President of the Zoological Society, in the affairs of which he took an active and beneficial interest to the day of his death.

The collection of birds, to which Capt. Wardlaw Ramsay sent him a unique contribution from the Andaman Islands, Burma, and India, was augmented by judicious efforts to a very high place amongst private museums of the kind; and at his own expense he sent out collectors to the Malay and Philippine Archipelagoes, the ornithological treasures of which had been imperfectly explored, to investigate the natural history of the islands. In 'The Ibis' and in the 'Proceedings' of the Zoological Society the papers which he wrote (now collected and edited, at the pious desire of his widow, by his nephew, Capt. Wardlaw Ramsay) bear ample proofs of his great attainments; and on the birds of India his authority was second to that of no living naturalist. The death of his first wife was deeply felt, too deeply ever to be quite forgotten; but Lord Walden was not one of those who sorrow as without hope. The fibre of his mind was of a nature too fine and wholesome for the weak indulgence of perpetual grief, and he sought, and successfully, in the ardour with which he pursued his investigations, solace from his regrets, and bore his part in the world's battle with unclouded front. He was the heir of an ancient house, and his second brother was not married; and so after more than two years' widowhood, in October 1873 he married Julia, the second daughter of Keith Stewart Mackenzie, of Seaforth, who survives him; and three years later, by the death, full of years and honour, of his venerable father, he succeeded to the Marquisate, and came into possession of Yester and of the family estates. The moment he succeeded he set about the execution of large schemes of progress, not in any sense reproachful to the memory of a father who had, till the advance of years enfeebled his body, led the van in the march of all agricultural improvements, but in another direction. He was then in his fifty-second year; he had apparently a long career of usefulness before him, for now he had the power, as he always had the will, to labour for the good of those around him, and to turn the gifts of fortune to the best account in promoting the happiness of his dependents. But it was fated that the tranquil and happy life, in the latter part of which he said he had at last found "the full measure of contentment, which most men might grasp if they would think of what they had, and not of what they had not," should be brought to a premature close. But, after all,

> "That life is long which answers life's great end."

And with him that was usefulness. He went about the improvement of the *minds* of the people on his estate; he turned his thoughts to the amelioration of the *personnel* of the peasantry and of the human beings committed to his care, whilst he was not indifferent to fat cattle, swedes, and mangold. One of his first acts was to provide a medical officer at a fixed salary for the poor, and to visit the ministers of both churches, to assure them of his readiness to give relief to the poor and sick of their flocks, an assurance amply justified; and, in the words of Dr. Gray, "his large heart was ever devising plans to promote the elevation, improvement, and enjoyment of all around him, and especially to pour oil and wine into the wounded hearts of the sorrowful and suffering." To the village of Yester outside the park gate he presented a library and reading-room, which he opened in person, and by his presence he encouraged the villagers to attend the lectures he founded. The schools on the estate were visited and animated by his solicitude and superintendence; and he instituted singing-classes, the good effects of which are abiding.

At the same time, as one of the many local papers which contained obituary notices of him observed, he proved most emphatically, the very year of his death, that he was keenly alive to the value of his father's material improvements in agriculture; and in the June of 1878 he directed the attention of the Highland Society to the article on "Farm Machinery" in the Report of the Agricultural Congress at Paris, and to the incorrect statements in it as to the steam-power experiments at Yester in 1848; and he vindicated the claim of his father to be considered the maker of the first drain-tile-making machine, one of which was exhibited at the Highland Society's gathering in 1836.

The Chiselhurst museum (bequeathed with his scientific books to Capt. Wardlaw Ramsay) was transferred to Yester, and the house became a centre of intelligent and enlightened interest in the county. It is not for us to speculate on "what might have been;" but there is reason to fear that in all this anxiety for the good of others Lord Tweeddale, whose health had not been very strong, was too indifferent to his own; and it was remarked when he returned from Germany with Lady Tweeddale that he was not looking well, though he did not complain of more than headache and slight nervousness. Towards the close of 1878 the Marchioness and he were staying at Walden Cottage. He had been engaged in his usual pursuits, and had been up to London several times, going down generally, if not invariably, the same day; but on one occasion when he was expected on business he was unable to leave the house, owing to a severe cold; congestion and inflammation of the lungs set in with fatal celerity, and after five days' illness he passed quietly away. His last words, whispered to his wife ere consciousness left him, were, "I firmly believe in the Son of God." He died on 22nd December, 1878.

Ueber allen Gipfeln
Iſt Ruh'
In allen Wipfeln
Spüreſt du
Kaum einen Hauch
Die Vögelein ſchweigen im Walde
Warte nur, balde
Ruheſt du auch.

W. H. R.

APPENDIX I.

On the 15th of April 1869, thirteen years after the conclusion of the Crimean war, Lord Walden gave evidence before a Select Committee of the House of Commons as to the advisability of affording to officers after they had joined the army opportunity for acquiring the elements of technical instruction in subjects connected with their profession. The evidence given by his Lordship was considered at the time to be of great practical value, in enabling the Committee to arrive at a sound conclusion as to the important question that had been referred to them. It seems therefore desirable, in concluding this brief memoir, to transcribe in full the evidence then given by Viscount Walden.

THURSDAY, 15th APRIL, 1869.

PRESENT:

THE RIGHT HON. LORD DUFFERIN AND CLANDEBOYE, K.P., K.C.B.,
IN THE CHAIR.

LORD EUSTACE CECIL, M.P.
GENERAL LORD DE ROS.
LORD NORTHBROOK.
LIEUT.-COL. SIR CHARLES RUSSELL, BART., V.C.
LIEUT.-GENERAL SIR D. A. CAMERON, K.C.B.
MAJOR-GENERAL EARDLEY WILMOT.
MAJOR-GENERAL HAYTHORNE.
C. S. PARKER, ESQ., M.P.
REV. W. C. LAKE.
LIEUT.-COL. CHESNEY.

VISCOUNT WALDEN examined.

6337. (*Chairman.*) You have served in India, and you were also in the Crimean campaign? —Yes.

6338. Do you think that it would be desirable to afford to officers, after they have joined the army, facilities for acquiring the elements of technical instruction in subjects connected with their profession?—I certainly think so.

6339. Do you attach such importance to the acquisition of that instruction as to consider it to be desirable to render it in some degree compulsory?—I should render the knowledge of the subjects compulsory.

6340. That is to say, that you would be inclined to require every officer on rising from one grade to another to pass an examination in those subjects?—Yes; up to a certain rank.

6341. Up to what rank?—Up to the rank of captain.

6342. Would you have two examinations?—Yes, for the ranks, a lieutenant and captain.

6343. To what subjects would you be inclined to confine that obligation?—I should confine it to all subjects which related to the particular profession to which the officer belonged; that is to say, an infantry officer would have to know different subjects from a cavalry officer. I think that an infantry officer should be better acquainted with field fortification than a cavalry officer; and, on the other hand, a cavalry officer should know more about horses and so on than an infantry officer. I should confine it to the profession to which the officer belonged.

6344. There are now, I believe, examinations, but they are connected with the drill and the interior economy?—I believe so.

6345. You would extend those examinations to such subjects as field fortification, field sketching, &c.?—I am not certain as to field sketching; that should be taught before the officer enters the army; but I think that they should include field fortification. In the first place, I think that field fortification in its widest sense should form one subject, that every thing in the nature of outpost duties, and every thing in fact connected with a campaign, another. A knowledge of permanent fortification sufficient to enable an officer to understand what is going on at a siege, in trenches, and so on; and a certain acquaintance with siege ordnance and artillery, so as to enable him to work guns on occasions; a knowledge of tactics should likewise be required.

6346. (*Lord de Ros.*) The working of guns is taught now, is it not?—I believe so, but I cannot say for certain what is taught at the present moment. I would include the elements of strategy and military law, and of course the practice of courts-martial.

6347. (*Chairman.*) What machinery would you suggest for administering that instruction?—I think that the greater part of it might be obtained in the battalion to which the officer belonged.

6348. Would you appoint a military instructor to each battalion?—No; that would hardly be necessary. An officer could acquire by study every thing which is necessary connected with his purely military duties, and he could so acquire it in the battalion.

6349. But still I suppose that that would facilitate his acquisition of a knowledge of field fortification?—He would very likely find opportunities of learning that in garrison, where there are engineer officers quartered. I would have district instructors, but not battalion instructors.

6350. You would be inclined to organize your system of instruction at the great military stations rather than in a regiment?—Yes.

6351. Do you think that that would be unpopular in the army?—No, not if confined to an officer's military instruction; but any thing savouring of a schoolboy going back to school would be very unpopular. On the contrary, I think that what I have suggested would be popular.

6352. You have stated that you would not make attendance at lectures, for instance, or at the rooms of these instructors, compulsory?—I would make the knowledge compulsory, to be ascertained by examination.

6353. Your opinion would be considered by the Commission very valuable, not only as to the subjects taught, but more especially with reference to the application of such a system as you have indicated to India. From your acquaintance with military life in India do you think that there would be any difficulty in extending to India the same system as you would be inclined to recommend for this country?—I think not. Generally speaking, the troops are more or less collected together in stations. It is many years since I left India, but I believe that since then the troops have been more concentrated, not so detached as they were in my time.

6354. And your notion would be that the station instructors should be taken from officers belonging to the scientific corps?—Yes, and from the staff and from regimental officers if holding certificates of qualification.

6355. In fact, wherever you could get them?—Yes; and you could always get them at the stations.

6356. At what age would you like to see officers coming into the army?—At 16. I think that it would be better if their military training was entirely commenced in the army; they might be treated as cadets in the army for the first year, without the authority of officers but as supernumeraries. I should like them to have the military training of a battalion as soon as possible.

6357. Then you would be very much opposed to the idea which has been advocated by some witnesses, namely, the establishment of a large military college through which all the officers of the army should be passed?—I should not object to that if you could maintain the proper discipline and authority which you have in military schools abroad.

6358. You have a large acquaintance with foreign countries where that system of military education principally prevails; and from what you know, without presupposing a very intimate acquaintance with those institutions, are you inclined to think that they have a tendency to give a higher scientific tone to the officers of foreign armies than that which is possessed by our own officers?—I certainly think so, because they teach much we do not teach.

6359. At our last meeting we had the evidence of a witness who had opportunities of observing the conduct and character of Prussian officers, and he seemed very much impressed with that fact. He seemed to consider that a Prussian line officer knew more of his profession, or at all events of the more technical subjects of his profession, than an ordinary English officer; would you be inclined to agree with that opinion?—Yes, I should say that he did.

6360. That of course is an advantage?—A great advantage. In Prussia it is a much more purely military life; an officer is never out of his uniform; he is always a soldier at every minute of the day.

6361. I suppose that as far as physical training is concerned, and what would be called practical military qualities as distinguished from technical instruction, our officers are perhaps superior to other officers?—Yes, I think so.

6362. In that respect a lad joining the army from a school would perhaps even physically be superior to a cadet from a foreign military college?—Yes; but in the Prussian army they have more practice; every officer has practice in manœuvres and camps.

6363. The facilities which are thus held out to an officer you would attach great importance?—A very great importance.

6364. (*Lord Northbrook.*) Have you directed your attention to the way in which these examinations should be carried on, if they were instituted?—I should like to see the present system of regimental examinations altogether abolished, and district boards of examiners appointed, composed of the general of the district, and his staff, and any one else it might be thought right to appoint, an engineer officer, and an artillery officer.

6365. How would you apply the system where regiments were detached?—Officers might go up to be examined to the head quarters of the district.

6366. Suppose a regiment to be ordered to the Mauritius, or to the Cape?—Even there a general officer, a staff officer, an engineer officer, or an artillery officer would be found.

6367. I presume that you would let an officer go up for examination at any time?—Yes; say four times a year.

6368. He might qualify whenever he was fit?—Yes, and I should let the decision of the general be final, if in favour of the officer. But against him, and if the officer complained, I would allow him an appeal to a higher tribunal if there was one, such as the Council of Military Education. I would send his papers to them, and would let them decide. In drill and the other practical parts of his profession the decision of the District Board should be final.

6369. That I presume would be a most essential part of the examination?—There might be questions in tactics and strategy, fortification, and artillery.

6370. (*Sir C. Russell.*) Always presuming that there is not to be a vast military college for the instruction of all the officers entering the army, I understood that you would be content to take the material which we now get, but that you would take it at an earlier age, and with military instruction immediately after joining?—Yes.

6371. I believe that at present most regiments are capable of instructing in musketry without the assistance of a detached military instructor?—I believe so.

6372. If the system which you propose were adopted in the army, do you not think that there would very soon be sufficient officers in the army to teach young officers the practical part of their profession?—Yes; I have stated that in the answers which I have sent in to the questions which have been sent to me.

6373. I believe that you have had opportunities of seeing some of the staff officers who have passed a very high examination, and who were sent out to the Crimea as staff officers; did you see in any of those officers any incapacity to perform the staff duties?—I understand the question to refer to physical incapacity?

6374. Yes.—I certainly recollect one or two instances of it.

6375. For actual service in the field do you consider that they were efficient as staff officers? —Certainly not; I recollect one officer perfectly, because I remember that he could not take an order.

6376. In illustration of officers in the army not being taught even the rudiments of permanent fortification, do you remember any notable instance of a general officer who was sent very suddenly in the Crimea to command a division?—I do not recollect the case of a general officer; I recollect the case of a field officer, who had great difficulty in finding his way about the trenches.

6377. And of course, being unable to find his own way, he had not the remotest idea where to put his men?—Just so. If I recollect rightly an order was in consequence promulgated desiring officers to go for three days into the trenches, and to make themselves acquainted with their principles of construction.

6378. Which would have been unnecessary if they had been previously instructed?—Yes.

6379. Do you remember in the trenches a serious mistake in consequence of the officer not knowing any thing of the ammunition supplied to guns?—Yes; I recollect a case of that sort. I recollect a working party commanded by an officer taking solid 68-pound shot to hollow 8-inch guns, and I think that I could recollect other cases of the same sort.

6380. With regard to education, will you state to the commission what you consider that a fair education should be for a young man entering the army?—I think that he ought to know one foreign language; French, I think, should be rendered absolutely necessary. I also think that he should know a certain amount of mathematics and a certain amount of Latin.

6381. (*Lt.-Col. Chesney.*) Referring to what you have said with regard to examinations, am I to understand that your opinion of the present system of regimental examinations is that they are unsatisfactory and are slurred over?—I think that there are several objections to them. I do not mean to say that there is any intention on the part of the boards to slur over the examination in any way, but I think that the boards are not well constituted; one board may put very severe questions, and another board may put the reverse, so that there is not the same standard of examination.

6382. (*Maj.-Gen. Haythorne.*) Do you think that there would be any difficulty in carrying out in India a practical course of instruction in field-works, military surveying, outpost duty, and such like, in consequence of the short period during the cold season which is available for drill, rifle practice, &c.?—It may be so at some of the hot stations, but, as far as I know, most of the troops are being as much as possible taken out of the plains. Certainly in the North-west Provinces they could do it. In the Madras Presidency there might be a difficulty.

6383. But in each presidency several stations exist where it might be carried out?—Yes; it can be carried out at Bangalore now; it is a much cooler spot.

6384. On the Bombay side could it be done?—I am not acquainted with the Bombay side, but as regards the great mass of troops in India it could be done; throughout the whole of the North-west Provinces it could be done.

6385. (*Lord de Ros.*) As regards the difficulties which have been alluded to in India, do you not think them rather exceptional than otherwise, and that they would not interfere with any general principle?—Certainly.

6386. As regards languages you speak of Latin as useful for the young officers; I suppose, because you consider that the study of the classics teaches you not only classical knowledge, but how to read and digest many other kinds of knowledge?—I think so. I should not require a very high proficiency, but certainly enough to read Cæsar.

6387. As regards the instruction of officers generally, do not you consider that the commanding officers of battalions are the proper instructors for every thing, and do you see any reason why they should not be so?—I certainly consider that they ought to be.

6388. You are aware that the first person who introduced any thing like field and outpost instruction in our service was Lord Frederick Fitzclarence, of the 7th Fusileers. Do you see any reason why it should not be done now?—None whatever.

6389. Taking those commanding officers of regiments whom you personally know, would you not consider them to be as good officers as you can get?—Yes, under the present system.

6390. When you speak of instruction in strategy, what is it exactly that you propose?—I should require every officer to have an acquaintance with strategical principles.

6391. Do you mean that he should also understand the service of the commissariat?—No. What I understand under the word "strategy" is different from what I understand by the word "tactics." I define tactics as what relates to the movement of troops in the presence of the enemy.

6392. As regards the discipline of the foreign schools, with which it appears that you are tolerably acquainted, is it not of a very harsh nature, such as would hardly be borne by young English gentlemen, and are there not several things connected with it, for instance duelling, and the absence of all religious instruction, which bear no analogy to our system?—Yes, there may be.

6393. If it is supposed that foreign officers have more theoretical knowledge, do you think that they have the same resource and the same power of endurance under hardship as a young English officer?—I certainly think so; I think that they undergo more hardship than our young officers.

6394. You do not allude to the hardships of service?—No; the hardships of service I presume would be the same in both cases. The French officers in the Crimea underwent the same hardships as our officers did. I do not mean to say that they did so voluntarily, but I think that they could not avoid it.

6395. You were a captain for about seven years?—Yes.

6396. Supposing that you had been in Ireland at the time of the Fenian disturbances, and that your commanding officer had desired you to take the command of 60 men and to occupy a bridge or a farmhouse in Ireland where an attack was expected, should you have felt incompetent to do so, or would you have undertaken it?—In my own case I should have undertaken it, but simply because I had been instructed in field fortification.

6397. Do you not think that there were other officers in the battalion besides yourself who would have done so?—All those who had been instructed in the elementary principles of field fortification, but no others.

6398. (*Rev. W. C. Lake.*) You have not enumerated military history?—I do not think that I should require an officer to know more of military history than was necessary to illustrate strategical or tactical principles.

6399. But you would require a certain amount of military history from all officers?—Yes; before joining the army.

6400. Do you think that the advantage of boys joining the army young counterbalances any supposed or real disadvantages arising from their not being so well educated as at the age of 19?—I am presuming that the education of a young officer goes on after he has entered the service, but that it is purely military.

6401. How long would you continue the preliminary education immediately after entering the army?—Until he had passed out of his cadet state, and he should then be required to pass an examination for his lieutenancy or captaincy in pure military subjects.

6402. When you speak of his being in a cadet state, do you mean before he becomes an officer?—Yes.

6403. You have spoken of the standard of examination at present in the regiments as not being systematic; do you think that that leads to a general failure in the result?—Certainly.

6404. (*Lord de Ros.*) Supposing that you introduced the foreign system of cadets into the English army, would there not be a difficulty as to the men saluting and showing them proper respect, and so on, or would you have them from the first receive that respect?—I would. But I would not let such a cadet be an executive officer in any sense. In the Prussian army I think that they must notice him, because the privates salute the corporals.

6405. Would you have him to belong to the officers' mess?—Yes; I would treat him in every way as an officer.

6406. (*Chairman.*) Even with regard to the cadet officers, supposing that they were to be attached to regiments, would you have it optional with them whether they were to take advantage of any instruction which might be provided or not?—No, I should not.

6407. You would make it compulsory?—I should make it very much the same as in the case of a midshipman.

6408. (*Lieut.-Col. Chesney.*) Is it your opinion that in the present state of our infantry and cavalry, every commanding officer is qualified to teach field fortification, and such elementary technical subjects?—I do not think that they would be so well able to do so as they would be if there was a proper system.

6409. (*Chairman.*) You are of opinion that this military instruction ought to be given to officers after they join the army, but at the same time I think you have stated that you would be in favour of the establishment of a large military academy or college, through which all officers joining the army should be compelled to pass, provided that at such an establishment proper discipline could be maintained?—Yes.

6410. (*Lord E. Cecil.*) Then it would be a school, and not a college?—Yes, it would be a school.

6411. It would be for boys younger than 16?—Yes.

6412. (*Rev. W. C. Lake.*) Do you say that you would wish to see such a college established, or only that you would not object to it?—I should like to see it, but my fear is that it would not be established on good principles, from what we have seen.

6413. What do you think would be right principles on which to establish such a college? In the first place, I do not think that the military training of the boys would be sufficiently kept up.

6414. (*Lord E. Cecil.*) Would you have it a military school, with military organization and discipline, or a semi-civilian school?—I would have it a purely military school in every sense, with very severe discipline.

6415. (*Chairman.*) You would allow the cadets to pass out at 16?—Yes, they should then pass out into the army.

6416. At what age would you allow them to go into such an establishment?—At the same age as that at which a boy goes to Harrow, but I would not teach military details there. I do not think that it would be necessary.

6417. Might not such a plan have the effect of depriving a lad of what all would think desirable, namely, the elements of a liberal education; would it not render his instruction almost too military?—I fancy that at first starting the elements of both kinds of instruction are very similar, and that it is only the direction to which both are turned in after life which would make the difference in the one case and in the other.

6418. Would you have all the teachers officers?—Yes, or at all events connected with the army.

6419. You have said, in answer to a previous question, that European officers, as distinguished from English officers, are essentially military, and that they are actuated by a military spirit, and always live in their uniform, and that they are soldiers and nothing but soldiers. Do you think that an unmixed good?—I look to the ultimate object in view. I look to what would make the best fighting animal, and I think that every other consideration ought to be subordinate, so long a you have an army. I do not wish to bind myself to the details. I think that the primary object is to make as good a soldier as you can.

6420. (*Lord Northbrook.*) Supposing that cadets joined the army at 16, what would be the military instruction which you would expect to get from the school?—Elementary instruction in sketching and drawing, and other kindred objects.

6421. And field fortification and so forth?—That is rather a matter of detail, but I would give elementary instruction in that subject also.

6422. What particular advantage do you expect to derive from this school as compared with boys coming into the army from Eton or Harrow?—You would obtain habits of strict discipline.

6423. That would be the main point?—Yes.

6424. (*Chairman.*) At all events you would consider that Latin and foreign languages should be subjects of instruction?—Yes, and a certain amount of mathematics.

6425. (*Lord Northbrook.*) Do you think that at a military school the discipline would be sufficient to keep the boys from drunkenness or disorder?—Yes; it might be made so if the authorities were supported by the public.

6426. Drunkenness has existed at Sandhurst?—Yes; and for that reason I should object to such a public school. It prevails both at Woolwich and at Sandhurst.

His Lordship then withdrew.

APPENDIX II.

The following memorandum by Dr. Thomson, the respected minister of Paisley, speaks for itself:—

"It was in October 1831 that I became tutor to the late Marquis of Tweeddale and his three brothers, viz. the Earl of Gifford (who was the eldest), Lord William Hay (the present Marquis), and Lord John Hay; and I continued in that capacity till January 1834, when I was ordained minister of the parish of Yester. At the time when I entered upon my tutorial duties all my pupils were very young, Lord Arthur being only about seven years of age; so that the responsibility of almost their first training in the various branches of education devolved chiefly, or rather solely, on me; and I had consequently ample opportunities of knowing the bent of their minds, as well as their natural abilities and affections. In the discharge of my duties from day to day I found the greatest pleasure, especially as I was greatly aided and encouraged by the judicious conduct and the cordial support of their parents. Their father was a strict but kind disciplinarian, and their mother was distinguished by her sound judgment and christian affection; and the whole moral and religious atmosphere of home with which they were surrounded was eminently fitted to develop and strengthen an upright and high-principled character.

"To the late Marquis, as well as to his brothers, I was strongly attracted. He was remarkable for his shrewdness of observation, his diligence in study, and his amiableness of disposition. He was thoughtful and inquiring, fond of reading, especially in history and geography; while he was blessed with a very retentive memory, as well as a good judgment. Though somewhat shy and retiring to strangers, yet he was very unselfish and considerate of the feelings of others, docile, affectionate, and obedient, so that he was much beloved by all who knew him.

"After having been his tutor for nearly three years, I still continued to be his minister for about eight or ten years more, so that I had frequent opportunities of observing his progress in his studies and the gradual development of his character; and I was much gratified to find that all my best hopes regarding him were being more and more realized. After a long interval of many years I had the satisfaction of renewing my acquaintance with him, shortly after his accession to the Marquisate, and had frequent conversations with him, from which I was much gratified to observe the deep interest he felt in all good objects, such as the circulation of the Bible; so that in his case it might be truly said that 'the child was the father of the man.'

"JOHN THOMSON, D.D."

"True St. George's Manse, Paisley,
31st March, 1880."

THE

ORNITHOLOGICAL WORKS

OF

ARTHUR, NINTH MARQUIS OF TWEEDDALE.

1844-45.

Descriptions of some supposed New, or Imperfectly Described, Species of Birds. By Lord ARTHUR HAY, A.D.C. to the Marquis of Tweeddale. [From the 'Madras Journal of Literature and Science,' vol. xiii.] Madr. Journ. Lit. & Sc. xiii. p. 145.

NISAËTUS ALBO-NIGER, Bl., young?

From Malacca, and perfectly distinct from any of the other species of the group, though approaching nearest to *N. cristatellus* in the young plumage, being, however, much smaller.

This bird has the head crested as in *N. cristatellus*; the feathers forming the crest being black, slightly edged with dirty white at the tips; all the underparts white, washed with light fulvous, darkest on the flanks and thigh-coverts; upper parts brown, lightest on the head; two middle tail-feathers similarly brown, with three distinct broad black transverse bars, and a fainter one near the base of the tail; the outer rectrices lighter on their inner webs, and all the feathers edged with dirty white at the tips; under surface of the tail light, the black bands being seen distinctly only through the two middle and the two outer tail-feathers: primaries deep brown; outer webs of the first black: wings graduated; first quill three fourths the length of the second, which is shorter than the third, while the fourth and fifth are nearly equal, though the fifth is longest; the underside of the wing is white near the flanks and shoulders, while the lower part is barred with black: the tarsus is closely feathered to the base of the toes. The whole form is strictly that of a *Nisaëtus*.

Dimensions.	inches.
Wing	11
Tail	10
Tarsus	$3\frac{2}{10}$
Hallux	$1\frac{3}{10}$
Middle toe	$1\frac{4}{10}$
Bill from gape	$1\frac{5}{10}$
,, ,, base	1

If my bird should on comparison be found distinct from *albo-niger*, I propose the name *malayanus*[*].

Madr. Journ. Lit. & Sc. xiii. p. 146.

BUTEO (BUTASTER) FASCIATUS[†], n. sp.

An interesting raptorial bird, seemingly belonging to the group *Butaster*[‡], Hodgson, was sent to me from Malacca, and which I now describe as probably new, under the provisional name of *fasciatus*. Plumage above deep smoky brown; lores brown cinereous, and so distinct in hue from the surrounding feathers as to be readily remarked; a white superciliary stripe commences over the middle of the ears, a few of the feathers springing from the nostrils having white shafts and centres. The throat and chin are white, a black stripe extending longitudinally from the chin down the middle of the throat; a parallel black stripe bounds the white on each side; the upper part of the breast is of a uniform brown, but the lower part, the belly and flanks, thigh-coverts and vent, have each of their respective feathers alternately and transversely banded with light brown and white, presenting a fasciated appearance; the shafts of these feathers are deep brown, and preserve a uniform colour, even when passing through the white. The upper tail-coverts are of a similar hue with the rest of the upper parts, though some of them in my specimen are broadly tipped with white. The tail is smoky brown, broadly barred with three distinct transverse black bands, and one much fainter near the base; the shafts of the tail-feathers are light or dark as they pass through either the light or dark parts of the tail. The under shoulder-coverts are marked with light rufous-brown upon a white ground; the under basal half of the wing is white, the tips of the primaries are black, while the quills are crossed by two or three straggling dark bands; the first quill is two thirds the length of the wing, and much shorter than the second, which is a little shorter than the fifth, the third and fourth being equal and longest. The bill is black, with the gape and basal half of the lower mandible dirty yellow in the dried skin; the tarsus is feathered a little beyond the knee and covered by octagonal scales.

Madr. Journ. Lit. & Sc. xiii. p. 147.

Dimensions.	inches.
Total length	$11\frac{1}{2}$
Wing	13
Tarsus	$2\frac{7}{10}$
Middle toe	$1\frac{5}{10}$
Hallux	$1\frac{5}{10}$
Bill from base	$1\frac{1}{10}$
,, ,, gape	$1\frac{4}{10}$
Tail	8

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[*] [=*Nisaëtus alboniger*, Bl.—Ed.]

[†] [=*Poliornis indicus* (Gm.).—Ed.]

[‡] Now *Poliornis*.

Scops malayanus, n. sp.

It was not till after the strictest comparison had been drawn between this species and the *S. aldrovandi* of Europe that I ventured to consider it as distinct. The grounds upon which I have separated the two species are these. First, the total absence of grey perceived in the plumage of *S. aldrovandi*; secondly, the superior strength of bill and length of tarsus of that bird; thirdly, the distinct manner in which the under surface of the primaries are mottled. These differences I consider to be sufficient to warrant their separation, particularly as two species from Africa, *S. capensis* and *S. senegalensis*, have been described and acknowledged as distinct, and also a species from Brazil, without possessing greater distinctions.

The present species was received from Malacca.

I shall now endeavour to point out the more prominent features in the plumage of the present bird. The under surface is distinctly divided into two equal portions; the first, including the chin, throat, and breast, being wood-brown mottled with a little white, light rufous, and black, irregularly distributed; the lower division, including the belly, vent, thigh-coverts, and under tail-coverts, is white, speckled with deep brown and light rufous. The ground of the upper surface is ferruginous wood-brown, closely speckled with black, and purest on the upper tail-coverts; four large white spots occur on each side of the back, which when examined will be found to form only the outer webs of the feathers to which they belong, the inner webs being like the rest of the dorsal plumage; each of these feathers is tipped with black; a little white occurs over each eye, and the cheeks are minutely speckled with white; the ears are bright rufous at the base, but resemble the dorsal plumage at the tips; the bristles which spring from the chin and nostrils are dirty white; the first quill has five rufous spots on its outer web, the second also has five spots, but the two nearest the tips only are rufous, the others being white; the spots on the three next quills are white, and those on the sixth are entirely rufous; the inner webs in *S. aldrovandi* are barred, but these bars are wanting in the Malay *Scops*, light tawny blotches breaking only the hair-brown colour of the quills; the tips of the quills, however, are faintly and minutely speckled; the third and fourth quills are equal and longest, the second and fifth are equal, and the first is shorter than any; the upper surface being but faintly barred and hair-brown.

Madr. Journ.
Lit. & Sc.
xiii. p. 148.

The upper mandible of the bill is black, the under dirty yellow; in shape it closely resembles *S. aldrovandi*, but is neither so high nor so strong. The tarsus is not feathered as far down as in the European bird; the whole leg and foot is weaker, and the entire bird is smaller.

Dimensions.

	inches.
Wing	$5\frac{6}{10}$
Tarsus	$\frac{8}{10}$
Tail	$2\frac{8}{10}$

Buceros violaceus*, Wagler.

Lower portion of the breast, belly, vent, thigh-coverts, tips of the quills, and tail, excepting the two middle feathers, white, the rest of the plumage glossy green-black; first and second primaries uniform black, short, narrow, and attenuated at the ends, in a somewhat similar

Madr. Journ.
Lit. & Sc.
xiii. p. 149.

* [=*Hydrocissa convexa* (Temm.).—Ed.]

manner to the first quill in the genus *Ptilonopus*, as seen in *Columba* (*P.*) *jambu*; head crested as in most Buceridæ—that is, the longest feather rising from the nape, and growing shorter towards the vertex. The two middle tail-feathers surpass slightly the rest, and show an indication to be tipped with white; these feathers are more pointed than the lateral ones, which become almost truncate in form and slightly graduated in length; this structure is to be observed also in the following species as well as in *B. albirostris*:—*malabaricus*, *gingianus*, *gingalensis*, *coronata* (Africa), &c.

The form of the bill in this species is very peculiar. The true line of the culmen may be seen along its whole length; a narrow groove commences at the nostril, which is placed in it, and separates in a way the main portion of the upper mandible from its casque; the culmenoid ridge of the casque for half its length is much higher than the occipital plane of the head: the casque is much swollen all its length, though most so in the middle, where, when seen from above, it is broader than the bill; its posterior portion is much narrower than the front of the head, and its anterior portion is much pinched, so as to render it almost sharp; the sides of the upper mandible are concave, and the margins of the bill are dentated, and in my specimen much worn, irregularly notched and broken.

From Malacca.

Dimensions.

	inches.
Total length	27
Wing	10
Tarsus	$1\frac{9}{10}$
Hallux	1
Culmenoid ridge	$3\frac{2}{10}$
Bill from gape	$4\frac{7}{10}$
Gonys	$3\frac{3}{10}$
True culmen	$2\frac{3}{10}$
Bill from nostril in a straight line	$4\frac{4}{10}$

Madr. Journ. Lit. & Sc. xiii. p. 150.

BUCEROS COMATUS, Raffles.

A specimen of what I consider to be this bird is now before me; but in case it should not be the same species, I add the following description. Head, neck, throat, breast, tip of the primaries, belly, and tail white; wings, back, upper and under tail-coverts, vent, and thigh-coverts black; the feathers on the crown of the head are stiff, loose in the web, black at the base, with black shafts for half their length; immediately behind the nostril springs a tuft of loose stiff hairy feathers half the length of the bill, and some of them with black shafts all their length; on the sides of the basal portion of the lower mandible, though not quite at the rictal angle, a few black bristles occur, these are so far spurious in that they show a tendency to run into the texture of a feather, a few scattered hairs in lieu of close webs springing from the sides of the shaft; the ciliary bristles are remarkably strong and black; the throat is thinly clothed with feathers; the crest is long and full. The white colour of the feathers is purest underneath the outermost ones, which are of a tawny hue; the black colour of the ventral feathers inclines to rusty; the abdominal feathers are black for the basal half of their length.

The bill is of a dull horn-colour mingled with yellowish white (in the dry state); there is no decided casque rising from the upper mandible, the highest part of its culmen being hardly higher than the occipital plane of the head; the upper mandible most bulged at the region of the nostrils, but much compressed beyond; the margins of the bill are very plainly serrated, the culmenoid crest is rounded and not sharp, it occupies two thirds of the true culmen, the curve of which proceeds along its base in the form of a furrow or groove, which is lost in the swelling of the bill near the nostrils.

I regret not being able to detail the caudal structure, as my specimen is somewhat damaged; the claws are (as in most of the Buceridæ) deeply grooved on their under surface, thus making the lateral corneous sheathing quite thin and pliable.

From Malacca.

Dimensions.

	inches.
Total length	44
Wing	14
Tarsus	$2\frac{5}{10}$
Hallux	$1\frac{2}{10}$
Bill from gape	$6\frac{2}{10}$
Bill from nostril in a straight line	$5\frac{3}{10}$
Culmenoid ridge	4
True culmen	$2\frac{3}{10}$
Gonys	$3\frac{7}{10}$

Madr. Journ.
Lit. & Sc.
xiii. p. 151.

Buceros malayanus, Raffles. Adult?

The whole of the plumage glossy black (appearing slightly green in certain lights), with the exception of the lower ends of the four outermost tail-feathers and the coronal circle, which are white; bill and feet black. Three specimens are before me, two agreeing entirely in their plumage, structure, and colouring of the bill, the other differing from them by having the bill perfectly white, and its protuberance differently shaped, as if not fully developed, and in having the white of the tips of the outer rectrices more developed: the crest also in this supposed young bird is not so large, as if it also had not arrived at maturity.

The bill without the casque in the adult bird is very similar to that of *B. carinatus*, Blyth, while that of the young bird resembles it closely, the casque not being fully developed in front, its superior margin hardly breaking the true culmen; the anterior edge of the casque in my adult bird, on the contrary, is almost perpendicular to the occipital plane of the head, while its posterior portion divides the feathers of the head, as it also does in the young bird; this posterior portion is bulged and rounded; as the casque advances on the beak, it becomes compressed, and its culmenoid ridge is so rendered quite sharp; the commissure in the old bird is toothed as in the *Pteroglossi*; this is not so distinctly visible in the young bird. The gular region is clothed with feathers, though the parts near the edges and angles of the lower mandible are bare; this nakedness is more marked in the young bird than in the old ones. The crest has its mesial portion quite black, and the rest white, the black not being so extended posteriorly as the white.

Madr. Journ.
Lit. & Sc.
xiii. p. 152.

Dimensions.

Adult.

	inches.
Total length	29
Wing	$11\frac{5}{10}$
Tarsus	$1\frac{9}{10}$
Hallux	$1\frac{1}{10}$
Gonys	$2\frac{6}{10}$
Bill from gape	$4\frac{3}{10}$
Protuberance from base	3
From nostril to the tip in a straight line	4
From anterior edge of protuberance to the tip of the bill	$2\frac{6}{10}$
From base to tip in a straight line	$4\frac{6}{10}$
Of white portion of crest from above the eye	$3\frac{7}{10}$

Young.

Total length	28
Wing	$11\frac{3}{10}$
Tarsus	$1\frac{9}{10}$
Hallux	$1\frac{1}{10}$
Gonys	$2\frac{2}{10}$
Bill from gape	4
,, ,, nostril	$3\frac{5}{10}$
,, total length from base	$4\frac{5}{10}$
White portion of the crest	3

BUCEROS ELLIOTTI*, n. sp.

This species resembles the last one very closely, but it is much larger and wants the white-bordered crest; otherwise the description I have given of the plumage of *B. malayanus* will do for this one. In my only specimen the bill has evidently arrived at maturity, and is perfectly white; the posterior portion of the casque covers a portion of the vertex, and is eight tenths of an inch higher than the occipital plane, its posterior edge being one and seven tenths of an inch behind the nostril when measured in a straight line; a ridge proceeds from the nostril, and marks where the true culmen would be if the casque were absent; this ridge ends where the culmen begins; two more ridges run almost parallel to it and above it, thereby causing two corresponding furrows; a third furrow is formed by the uppermost ridge and the swell of the casque, which commences to bulge above it; a fourth ridge is thus formed, but which is much broader and more rounded than the lower ones, and is bounded along its superior edge by a fourth furrow, which is the last. The casque becomes compressed as it advances on the bill, and is at last narrowed into a point: its anterior edge instead of being perpendicular with the occipital plane, forms with it (supposing the occipital plane to be continued) an obtuse angle, and consequently an acute angle with the true culmen. The margins of the bill are serrated; and the whole bill is a miniature resemblance of that of our common Malabar Hornbill, *B. pica.*

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* [=*Hydrocissa malayana* (Raffles), juv.—ED.]

Madr. Journ. Lit. & Sc. xiii. p. 153.

The first and second quills are formed similarly to those of *B. violaceus.*

Dimensions.

	inches.
Total length	34
Wing	13
Tarsus	$2\frac{4}{10}$
Hallux	$1\frac{5}{10}$
Culmenoid ridge	$5\frac{2}{10}$
True culmen	$3\frac{4}{10}$
Bill from gape	$5\frac{8}{10}$
,, ,, nostril	$5\frac{5}{10}$
Gonys	$3\frac{6}{10}$

This Hornbill would be identical with Eyton's *bicolor* if the three lateral rectrices and the tips of the rest of the tail were white (rectricibus tertiis lateralibus caudæque apicibus albis); but as this species has got the tips only of its four lateral rectrices white, and the two middle tail-feathers wholly black, it does not agree with Eyton's description.

Picus melanogaster*, n. sp.

A very distinctly marked species of Woodpecker from Malacca, and apparently new; the only two specimens I possess are not in full plumage, their general colours being as follows:—Back and wings when closed red-maroon with a waxy gloss; uropygium of a dull rusty brown, or of duller and browner tint than the back; head (as seen in my immature specimen) rusty brown, with the forehead much lighter and inclining to tawny brown; the usual Picine crest not much developed and longest at the nape, where the tips of the feathers are of a bright crimson or almost blood-red, and bearing in colour and texture, though not in form, a somewhat similar resemblance to the tips of the secondary quills of the *Waxwings*; the whole of the underparts excepting the chin are dark olive rusty-brown, almost inclining to black, and to which colour I suspect the feathers of the old birds turn; the chin and forehead are similar in colour; the upper tail-coverts and the rectrices are brownish black, barred with lighter bands, the middle rectrices not forming an exception; first quills of the wing almost spurious and the outer webs of the primaries are distinctly spotted, and their inner webs more faintly barred with a colour similar to the caudal bands. The bill is ivory-white, and the feet in the dried skin black.

Madr. Journ. Lit. & Sc. xiii. p. 154.

This bird's generic characters seem to place it near the genus *Dendrocopus*, if not in it.

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* [=*Lepocestes porphyromelas* (Boie).—Ed.]

Dimensions.

	inches.
Total length	$8\frac{3}{10}$
Wing	$4\frac{8}{10}$
Tail	3
Tarsus	$\frac{8}{10}$
Outer hallux	1
Outer toe	1
Bill from base	$1\frac{3}{10}$
,, ,, gape	$1\frac{5}{10}$

GRACULA RELIGIOSA, Linné.

Under the name *G. religiosa* Linné confounded two, if not more species. Cuvier subsequently separated the largest species which is found in Malasia from the continental Indian species, naming the former *javana* and the latter *indica*, without regard to Linné's prior name of *religiosa* (which was applied to two species, whose distinctness he allowed in his 'Systema Naturæ,' but to which he only gave the one name above mentioned). This is, I believe, generally allowed to apply to the larger or Malasian species; but in reading over attentively the notice given by Linné, in his 'Systema,' of the *G. religiosa*, I find that the first bird described is evidently our Peninsular bird, as it is distinctly said that the variety No. 2 is much larger. The name *religiosa*, therefore, ought most certainly to be retained to the first described species, and not to the variety. I have now before me specimens of three distinct species, the first from Malacca, the second from Malabar, and the third from Northern India and Arracan; the third species is intermediate in size between the Malacca and Malabar bird, and differs in other points also, which I will point out. To the Malabar bird, as I said before, I would retain Linné's name of *religiosa*; to the Malacca bird, should it prove the same as the Javan species, the name of *javana*; and to the third species, which has not as yet been noticed as distinct, I would, to avoid confusion, give Cuvier's name of *indica*, and so avoid adding another name to the already overloaded list of synonyms.

Madr. Journ. Lit. & Sc. xiii. p. 155.

As the two names *religiosa* and *indica* have become so mixed up that they have been applied by some to our Indian bird, and, again, in the opposite way by others to the Malasian bird, the following description and dimensions will perhaps serve to aid the elucidation of the species, should my previous remarks not prove satisfactory:—

1st. *G. religiosa*, Linné, Jerd. Cat. 168.

The whole of the upper plumage and the lesser shoulder-coverts glossy purplish black, the metallic reflections changing to green on the lower part of the back and upper tail-coverts; under plumage the same as the upper, though not so bright; under tail-coverts dull black, and fringed only at the ends with the glossy hues of the general plumage: this latter character, indeed, is possessed by all the feathers when taken singly. Wings and tail coal-black without reflections; the spurious quill is very short and quite black; the first primary has a white mark on its inner edge only; the next six have the white marks on both sides of the shaft, but forming in the sixth (that is, the seventh including the first) a roundish blotch, and not occupying the whole breadth of the inner web; the wattles on the head commence below each eye, pass beyond the ear, where each forms a small flap, and then returns on to the head, so dividing the occiput and nucha into three distinct portions, which are closely clothed, like the rest of the head, with short velvety feathers. The legs are yellow, the bill orange, and the eyes deep brown.

Specimens in my cabinet both from Malabar and Goomsoor agree perfectly in their colours, form, and dimensions.

2nd. *G. javana.* *Eulabes javana*, Cuvier; *G. religiosa*, Cuv., apud Horsfield, Zoological Res. in Java; *Eulabes javana*, Vieill.

Madr. Journ. Lit. & Sc. xiii. p. 156.

This species is perfectly distinct from the former, and is, as Linné remarks, much larger; but its superior size is not its only distinction, for the form of the bill and shape of the wattles form very marked differences. In plumage the two agree pretty closely, though perhaps the Malay bird is the brightest of the two. A large stripe of deep velvety black feathers begins just above each eye, where it is narrowest, and widens as it recedes, occupying the greater portion of each side of the head, and nearly joining at the back of it; from the base of the bill and bounded on both sides by these black lateral bands, passes the medial stripe of the feathers which clothe the remainder of the head, and which are of a purplish gloss, similar to the rest of the plumage; this stripe narrows as it recedes, its narrowest portion being where the lateral bands so nearly join; below each eye is a naked space of orange-coloured skin, and quite unconnected with the large wattles that occur at the back of the head, and which commence from behind each eye, occupying but a very narrow space at first, and then suddenly widening into two broad four-cornered flaps.

The distribution of the white on the *primaries* and the colour of the bill and legs is as in the former species. The bill, though preserving a similar structure, is twice the height.

This species is, I believe, found in all Malasia, though my specimens were received only from Malacca.

3rd. The species to which I would retain Cuvier's name of *indica* is intermediate between the first and second; the bill is rather larger than that of our Peninsular species, but the wattles partake in form of both the former species; in the manner that they are placed below the eye, they resemble those in *G. religiosa*, while from their not returning onto the occiput, they bear some affinity to *G. javana*; the black lateral bands hardly observed in *G. religiosa* and so marked in *G. javana*, occur in this species only before and behind the eye, but not over it, thus causing a hiatus, which is replaced by the proper feathers of the head. In size the *G. javana* is the largest, and the Peninsular species the smallest; while the only distinction in the general plumage of this species, and which is perhaps merely the effect of age, is, that the primaries and secondaries are edged with rusty brown, thus almost forming a band across the wing.

Madr. Journ. Lit. & Sc. xiii. p. 157.

I shall now add the dimensions of all the three species:—

	The Peninsular species, *G. religiosa*, Linné. inches.	Malay species, *G. javana*, Cuv. inches.	North-Indian species, *G. indica*. inches.
Total length	$8\frac{5}{10}$	10	$9\frac{8}{10}$
Wing	$5\frac{5}{10}$	$6\frac{9}{10}$	$6\frac{8}{10}$
Tarsus	$1\frac{1}{10}$	$1\frac{4}{10}$	$1\frac{2}{10}$
Middle toe	$1\frac{1}{10}$	$1\frac{6}{10}$	$1\frac{2}{10}$
Hallux	1	$1\frac{3}{10}$	$\frac{9}{10}$
Tail	$2\frac{5}{10}$	$3\frac{8}{10}$	$3\frac{7}{10}$
Bill from base	1	$1\frac{2}{10}$	$1\frac{1}{10}$
„ rictal angle . .	$1\frac{3}{10}$	$1\frac{4}{10}$	$1\frac{3}{10}$

The difficulty attending the description of species so apparently similar and yet differing so materially in particulars, will, I trust, plead some excuse for any faultiness in the above remarks. Should Cuvier's name of *indica* be found to apply to our common species or to the Malay bird, I would propose that of *intermedia* for the species I have provisionally retained to *G. indica.*

The outline of the bill given in Swainson's 'Synopsis' agrees with our Peninsular species, and is evidently meant to represent that of Linné's *G. religiosa.*

CEBLEPYRIS CULMINATUS, n. sp.

I received this species from Malacca, and it seems to differ from any that have as yet been described. General cast of the plumage iron-grey, uniform on the head, back of the neck and black underparts and upper tail-coverts lighter, speckled and striated with white; black mark from the base of the bill to the eye; primaries slightly edged with white, secondaries more so; under surface of the wings uniform hair-brown without white; two middle tail-feathers cinereous brown, tipped with white; bill moderate, not compressed, and high. Bill and feet black.

Madr. Journ. Lit. & Sc. xiii. p. 162.

Dimensions.

	inches.
Total length	$6\frac{7}{10}$
Wing	$3\frac{7}{10}$
Tail	$3\frac{3}{10}$
Tarsus	$\frac{7}{10}$
Bill from base	$\frac{6}{10}$
„ gape	$\frac{8}{10}$

MUSCICAPA BELLA*, n. sp.

General dorsal aspect cobalt-blue, the head and shoulders of a lighter and more brilliant tint; the blue on the back of the neck changing in some lights almost to violet; chin, throat, cheeks, and breast dull blue-black; lower part of the breast, the belly, vent, and under tail-coverts pure white; flanks dusky; wings hair-brown beneath; under shoulder-coverts light blue; spurious quill very short and dark, without any blue on the outer edge; all the primaries excepting the first edged with blue on the external webs of the feathers, but not reaching to the tips of the three first, so that when the wings are closed they appear blue, excepting all the ends. The tail, which is moderate, has only the two middle feathers wholly blue on the upper surface, the remainder being so on their outer webs; the under surface of the tail is deep black; the bill and feet are black. In form the bill resembles that of *M. cærulea*, Vieill., though it is rather thicker and more robust. From Hong-Kong.

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* [=*Xanthopygia cyanomelæna* (Temm.).—ED.]

Dimensions.	inches.
Total length	$6\frac{3}{10}$
Wing	$3\frac{3}{10}$
Tail	$2\frac{9}{10}$
Tarsus	$\frac{6}{10}$
Middle toe	$\frac{6}{10}$
Hallux	$\frac{4}{10}$
Bill from base	$\frac{4}{10}$

PHŒNICORNIS? AUREOPYGIA[*], n. sp.

This little bird does not strictly belong to the genus *Phœnicornis*, and it is with doubt, therefore, that I refer it to the group; the distribution of its colours shows, however, a decided affinity to *P. peregrinus*, and in other respects it seems nearly allied to it. Madr. Journ. Lit. & Sc. xiii. p. 159.

The plumage is of a silky texture and puffy upon the rump, where it is of a rich golden yellow, and of a lighter hue than the feathers of the throat and upper part of the breast, which are deep orange; the lower part of the breast and the belly are rich lemon-yellow; the flanks are dusky, and the under tail-coverts and scapulars pure white; an orange-coloured streak commences at the base of the upper mandible and passes round the eye to the ears; the remainder of the plumage is dull black. From Hong-Kong.

Dimensions.	inches.
Total length	$4\frac{3}{10}$
Wing	$2\frac{9}{10}$
Tail	2
Tarsus	$\frac{6}{10}$
Middle toe	$\frac{6}{10}$
Hallux	$\frac{3}{10}$

MUSCIPETA ATROCAUDATA[†], Eyton?, Cat. of Malay Birds, Proc. Zool. Soc.

A lovely species of *Muscipeta* now before me, and shot near Hong-Kong, seems nearly to agree with Eyton's description of the above-named bird. But as his description is very short and is taken from a Malay specimen, I take this opportunity of fully describing my specimen, which is evidently an adult. Head, cheeks, throat, breast, and tail coal-black without reflections; belly and under tail-coverts pure white; flanks dusky; back, shoulder, and wing-coverts deep glossy maroon-purple, inclining to black on the upper tail-coverts. Primaries black; secondaries edged with the same colour as the back. Bill and legs black, the head ornamented with a long black crest. As there are some discrepancies between my specimen and Mr. Eyton's short description, Madr. Journ. Lit. & Sc. xiii. p. 160. I add the latter:—"Toto corpore purpureo-atro, sed pectore imo abdomineque albo." It will be seen that the expression "toto corpore purpureo-atro" does not altogether apply to my specimen; and as mine is from Hong-Kong, it may probably be a new species, in which case I beg to propose the specific name of *elegans*.

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[*] [I am unable to find any subsequent allusion to this species.—Ed.]

[†] [=*Muscipeta princeps* (Temm.).—Ed.]

Dimensions.	inches.
Wing	$3\frac{5}{10}$
Tarsus	$\frac{6}{10}$
Hallux	$\frac{5}{10}$
Middle toe	$\frac{5}{10}$
Body of tail	4
Bill from gape	$\frac{9\frac{1}{2}}{10}$
,, base	$\frac{7}{10}$

The two middle tail-feathers exceeded the body of the tail by $7\frac{7}{10}$ inches.

Genus Brachypus, Sw. (Subgenus *Hæmatornis*, Sw.)

Hæmatornis atricapilla, Vieill. *Chinese Bulbul.*

I received this interesting species from Amoy, and have no doubts in referring it at once to Swainson's subgenus *Hæmatornis*, and as one of the most typical forms.

The head is black and subcrested; the chin and base of the lower mandible the same as the wings, which are of a light hair-brown, deepest upon the quills; the tail and back are of the same tints, the feathers of the back being deepest in colour towards the shafts; the lower end of the tail-feathers is the darkest; all, except the middle pair, are broadly tipped with white, most marked on the underside; the cheeks, throat, breast, belly, flanks, upper tail-coverts, and thigh-coverts are of a uniform dirty white; the under tail-coverts scarlet; the bill is black, distinctly notched, and is strictly that of a *Hæmatornis*; at the gape there are but few bristles: the wings are moderate, the first quill is very short, half the length of the second, the third, fourth, and fifth are graduated, the latter longest; the legs are black and feathered below the knees, the tarsus short and strong; the anterior scales simple; the lateral toes are equal, the middle toe is shorter than the tarsus, the claws are compressed and pointed: the tail is more or less square, and consists of twelve feathers.

Caprimulgus pulcher*, n. sp. *The Beautiful Goatsucker.*

Madr. Journ. Lit. & Sc. xiii. p. 161. I received this splendid Goatsucker from Malacca, and having failed in finding a description at all approaching to it, hesitate not in describing it as new.

Black and deep brown predominate throughout its plumage, though markings of tawny yellow mingled with light brown are perceived on the belly and breast; the usual white mark on the throat is seen in this Nightjar, but no other white markings are found in its plumage;

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* [=*Lyncornis temmincki*, Gould, Icones Avium, pl. 6, *vide* Walden, Ibis, 1872, p. 369.—Ed.]

the head is of the richest speckled brown, with a black streak down the middle; the chin and upper part of the breast are mottled richly with brown and black; the breast is barred transversely with black and rich fulvous, each feather being black at the base, then fulvous, and then a slight edging of black; on the belly, flanks, and under tail-coverts light tawny predominates, the black edgings being narrow; the wing-coverts are of the same rich mottled brown seen on the head; the primaries are coal-black, with rufous spots on their outer webs; on the second quill eight of these spots occur, as also upon the third; on the underside of the wing the same spots are visible though fainter; the second quill is longest: the tail is also deep black slightly variegated with brown; the tail surpasses the wings by one inch and three tenths. The bill is very small, and the tarsus as in *Caprimulgus*.

Dimensions.

	inches.
Total length	10
Wing from shoulder	8
Tail	5$\frac{6}{10}$

MUSCICAPA PECTORALIS [*], n. sp.

It is with doubt that I refer this lovely species to the restricted genus *Muscicapa*, and yet its large size is perhaps the only objection to its being so classed.

Both the male and female birds were sent to me from Malacca, and after a diligent search amongst various authors, no mention can be found of them, and so I now describe them as new.

Madr. Journ. Lit. & Sc. xiii. p. 162.

The male and the female birds agree in the general tone of the plumage, which is of a dark indigo-blue, the points of difference between them being the rich claret-coloured breast, black throat, cheeks, superciliary stripe, and forehead, of the male; while in the female the whole plumage is uniform blue, though perhaps darker on the throat and breast; the dorsal plumage is soft, long and puffy, and when ruffled shows white at the base of the feathers, as do also the feathers on the flanks; the male bird is slightly larger than the female; the wings are moderate and slightly rounded, the fifth quill is longest, the others graduated; the tail moderate and even; the tarsus is short and weak, the inner toe is shorter than the outer, and the inner and outer claws are remarkably short.

The bill is *Muscicapine*, and resembles that of *Chaptia ænea*, though more depressed; the upper mandible is distinctly notched, and the rictal bristles are strong and numerous; the bill only commences to be compressed near the end; the base of the bill is thickly set with short stiff feathers.

Dimensions.

	inches.
Total length	7
Bill from base	$\frac{6\frac{1}{2}}{10}$
Wing from shoulder	3$\frac{4}{10}$
Tail	3$\frac{5}{10}$
Tarsus	$\frac{7}{10}$

[*] [= *Philentoma velatum* (Temm.), *vide* Walden, Ibis, 1872, p. 373.—ED.]

MUSCICAPA XANTHOPYGIA*, n. sp.

As this species seems to be undescribed, I add the following description.

Head, cheeks, lesser shoulder-coverts, back and the upper tail-coverts olive-green, rump saffron-yellow; chin, throat, belly, flanks, and under tail-coverts light straw-yellow, mixed with olive on the breast and flanks, inclining almost to white on the under tail-coverts; primaries and tail hair-brown; scapulars the same, edged with white; secondaries tipped with white; the upper mandible deep brown, the under yellowish at the base; feet plumbeous; first quill spurious, third and fourth nearly equal, third longest †.

Madr. Journ. Lit. & Sc. xiii. p. 163.

The bill is intermediate between that of a *Muscicapa* and a *Saxicola*; the rictal bristles are few and weak; the tarsus is lengthened, and longer than the hallux; the middle toe is long; the inner toe slightly shorter than the outer, the claws are much curved. From Malacca.

Dimensions.

	inches.
Total length	$4\frac{8}{10}$
Bill from base	$\frac{4}{10}$
Wing from shoulder	$2\frac{7}{10}$
Tail	$1\frac{9}{10}$
Tarsus	$\frac{6}{10}$

TURDINUS? SUPERCILIARIS ‡, n. sp.

This remarkable bird from Malacca seems to me to be referable to the genus *Turdinus*, though with doubt. Two specimens are now before me; one evidently the mature male, the other either the female or the young. The former has a distinct white superciliary stripe; the rump, upper tail-coverts, and tail are bright rufous, the latter tipped with a broad deep brown band; head, nape, back, chin, throat, and breast dark smoky black, deepest above; wings deep brown; abdomen, flanks, and under tail-coverts white, washed with rufous; bill black; legs pale yellow. Length $8\frac{1}{2}$ inches, wing $4\frac{2}{10}$, tail 4, tarsus 1, bill from gape $1\frac{1}{10}$, at base $\frac{8\frac{1}{2}}{10}$.

The young bird differs in having its plumage above mixed with rufous, in being smaller, and in wanting the superciliary stripe. At first sight this curious bird gives one the idea of its being a large *Phœnicura*. It is, however, decidely *Meruline* in form; and if separable from *Turdinus*, I would propose placing it in a new genus, to which I would give the name of *Turdirostris*, and characterize it as follows:—

Madr. Journ. Lit. & Sc. xiii. p. 164.

Bill strong, high, slightly longer than the head and much compressed; gonys ascending, commissure almost straight, culmen slightly curved; maxilla obsoletely notched, weakly hooked; nares ovate, situated in a broad shallow groove, and near the commissure, protected by thick-set, stiff feathers and bristles. Rictal bristles very strong and defending the eye. Legs strong;

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* [= *Muscicapula tricolor*, Hartl. Rev. Zool. 1845, p. 406.—ED.]

† Since writing the above, I have seen the male of this species in the collection of Dr. Cantor at Calcutta. It differs from the female in being much more brilliant in its hues; being bright yellow where the female is dirty light yellow, and deep black where the female is merely dusky.

‡ [= *Trichixos pyrrhopygus*, Less. Rev. Zool. 1839, p. 167.—ED.]

tarsus moderately long, longer than the hallux. Toes moderate, inner toe shorter than the outer, middle toe equal to the tarsus, claws moderately strong, that of the middle toe bulged internally, of the hallux very strong, curved and sharp. Wings moderate, almost pointed. First quill short, second shorter than the third, fifth and sixth equal and longest. Tail long, square, of twelve feathers.

1866.

Notes on Birds collected in Tenasserim and in the Andaman Islands. By Arthur, Viscount Walden, F.L.S., F.Z.S. [From the 'Proceedings of the Zoological Society of London,' November 22, 1866.] P.Z.S. 1866, p. 537.

Dr. Sclater has placed in my hands for publication the ornithological portion of a zoological collection which Captain Beavan is engaged in making in Tenasserim, and the firstfruits of which he has recently transmitted to this country. With the exception of six species obtained in the Andaman Islands, the specimens sent were collected in the neighbourhood of Moulmein and in the valley of the lower course of the Salween River. The collection is accompanied by some interesting notes of observations made by the collector, most of which, if, indeed, not all, convey new information. These notes I have transcribed in full; and it is to be hoped that during his stay in the Tenasserim provinces Captain Beavan will continue the useful practice of recording such observations as it is only within the power of the field-naturalist to make. An exhaustive catalogue of the Avifauna of the Tenasserim provinces has yet to be compiled. The identity of rarer species with the types from the neighbouring countries has in the majority of cases yet to be determined; and where differences occur, the degree and nature of the variation have in many instances still to be made known. In nearly all the species the exact limits of their areas of distribution remain a desideratum; and it is only by means of local collections, such as the one Captain Beavan is now engaged in making, that any progress in these branches of knowledge can become possible. Mr. Blyth, it is true, has amassed a large number of facts bearing on these subjects; but they are scattered through so many papers and different periodicals, that, until they are brought together and systematically arranged, much time will have to be spent by the student before full benefit can be derived from their undoubted value. In Europe little has been done, chiefly in consequence of the want of authentic specimens from different localities, and sufficiently large series of the specimens sent. As a result of this paucity of local specimens in our museums, or rather in one and the same collection, many species inhabiting the continent of India, for instance, remain still bearing titles originally bestowed on forms foreign to that country; and an absolute identity, as far as these species are concerned, is thus assumed to exist between birds, not migratory, inhabiting regions widely apart. And yet, on comparison being made between actual specimens from distant localities, certain differences are frequently, and in many genera invariably, discovered, which, whether of specific value in the opinion of some naturalists or not, still seem to go far in showing that absolute stability and immutability of specific forms in birds does not exist.

The numbers and sexes given at the head of each species in this paper are those attached to the specimens by Captain Beavan. I commence with the Tenasserim specimens.

P.Z.S. 1866, p. 538. 1. Harpactes oreskios (Temm.)?

Trogon oreskios, Temm. Pl. Col. 181.

No. 26. Salween Valley.

"Bill blue, also skin of eyes and feet. Found this beautiful Trogon plentiful on Korkarit Island, Salween River. It lives in thick forest jungle, where there is but little underwood; but the trees above have their boughs matted together, and bound up by tangled creepers, creating a deep shade below, to the great convenience of the observer. These Trogons go about in parties of seven or eight, sometimes more, and are very silent and quiet in their movements. No call-note is heard; but a bird suddenly darts from a low bough, seizes an insect near the ground, and, returning to its perch, leisurely devours it before you, without showing any signs of alarm at the presence of an intruder on its domains. He will then sit there so quietly that, if once lost sight of, it is difficult to find his whereabouts again, so similar is the colour of the plumage to that of the leaves. The female is much like the mâle, but altogether duller in plumage, especially about the under parts. In the same kind of forest may frequently be seen, on the highest trees, the grand Hornbill (*Buceros homrai*, Hodgs.); while on the damp ground below, wherever, here and there, a passing shower has left a few small half-dried pools of water, the Blue Ground-Thrush (*Pitta cyanoptera*) marches about in all his glory, flying up to the nearest bough on your too near approach."

I have no Javan specimen wherewith to compare. Mr. Blyth (Ibis, 1865, p. 32) considers the Burmese race conspicuously different. Arakan is the furthest recorded northern limit of this species.

2. Merops viridis, Linn. S. N. ed. 12, p. 182. n. 2.

No. 52, ♀. Moulmein.

"Common in neighbourhood of Moulmein." The specimen sent belongs to the race named *ferrugiceps* by Hodgson (Gray, Zool. Misc. 1844, p. 82), and which, Dr. Jerdon observes, forms the prevalent race in Burmah. Mr. Blyth has also remarked that *M. viridis* in Burmah has a redder head than in India (J. A. S. B 1863, p. 74). The entire head and nape of this specimen is of a bright rusty, with a tinge of green; the throat is green, edged with blue on the cheeks. The upper plumage is darker green than in Candeish and Ceylon specimens; and in them the throat is bright turquoise-blue, with green predominating over the rufous of the head and nape. But the validity of the specific distinctions cannot be satisfactory established from a single specimen, and therefore for the present I prefer retaining the Tenasserim form under *M. viridis.* It seems, however, to be a link of transition between the true *M. viridis* and *M. quinticolor.*

3. Loriculus vernalis (Sparrm.).

Psittacus vernalis, Sparrman, Mus. Carls., pl. 24 (1787).

Nos. 23, 24, 25, ♀. Salween River.

"Irides white in some, light brown in others, the latter probably young birds; bill orange; legs yellow." Malabar, Sub-himalayan, and Burmese individuals are regarded as identical by Messrs. Blyth and Jerdon. Mr. Blyth also, in his catalogue, identified Indian with Javan specimens preserved in the Calcutta Museum—an interesting fact; for the intermediate countries of the Malay peninsula are inhabited by a distinct species, *L. galgulus* (Linn.). The line of contact between the two species has yet to be recorded. An analogous fact is the existence of a third distinct species (*L. asiaticus*) in Ceylon, to which small area it is confined; while north of the Straits of Manaar the country of *L. vernalis* commences. P.Z.S. 1866, p. 539.

4. Gecinus viridanus (Blyth).

Picus viridanus, Blyth, J. A. S. B. 1843, p. 1000, ♂; 1844, p. 394, ♀.

No. 20. Schouay Goon, Salween River.

"Irides dark purple; bill dark horny above, greenish yellow beneath, except tip, which is darker; legs and claws dull greenish yellow." A male in full plumage with scarlet crest. Mr. Blyth (Cat. Calc. Mus.) subsequently identified his *G. viridanus*, which was founded on Arakan specimens, with the Javan *dimidiatus*, Temm. But I cannot find any note of his having compared specimens from the two localities, and Javan specimens did not exist in the Calcutta Museum when the catalogue was framed. Malherbe has followed Mr. Blyth, but without assigning a reason; and Sundevall (Consp. Av. Picinarum) has adopted the same view. In the India Museum, however, both Mr. Blyth's type and the Javan bird are preserved; and in their catalogue of that collection Messrs. Horsfield and Moore enumerate them as distinct, an opinion in which I concur. Pegu specimens of the nearly allied *G. striolatus*, Blyth, are preserved in the British Museum.

5. Yungipicus canicapillus (Blyth).

Picus canicapillus, Blyth, J. A. S. B. 1845, p. 197.

No. 29, ♀. Schouay Goon, Salween River.

"Bill horny; legs greenish." The presence of a red streak on each side of the head of the specimen sent inclines me to regard Captain Beavan's determination of the sex as erroneous. This bird is nearly related to the Javan form, the *moluccensis* of Blyth and of Horsfield and Moore, but not of Malherbe, which is, according to that author, from the Philippines and Moluccas. According to Mr. Blyth, the form which inhabits the peninsula of Malacca is identical with the Javan bird; and specimens from both regions existed in the Calcutta Museum. In the specimen sent the crown is of a light greyish brown, readily distinguishable from the dark-rufous-brown occiput of a Javan male in my collection. The bill is equal in length, but much stouter; the wings are perceptibly longer; the longitudinal streak on the breast-feathers is broader and of a darker brown; and the general shade of the brown plumage is deeper than in my Javan specimen. Malherbe has omitted to notice the Javan form; but, on Mr. Blyth's assertion of its identity with the Malaccan bird (an opinion shared by Horsfield and Moore), it will probably P.Z.S. 1866, p. 540.

have to take the name of *auritus*, Eyton (Ann. Nat. Hist. 1845, p. 228), described from the Malaccan species.

6. MEGALAIMA HODGSONII, Bp. Consp., i. 144. no. 19 (1850).

Megalaima lineata (Vieill.), Jerdon, Birds of India, i. 309. no. 192.

No. 22, ♀. Kyodan, Salween River.

"Frequents tops of highest trees." Captain Beavan's specimen appears to belong to the Sub-himalayan race, referred by Blyth, Horsfield and Moore, and Jerdon to Vieillot's *Capito lineatus*, a species described by that author (Dict. d'Hist. Nat. iv. 500) as from "l'Australasie." Vieillot's account is so vague that it will apply equally well to other races of the Green Barbets. I therefore prefer rejecting Vieillot's title, and adopting that given by Prince Bonaparte, founded upon Nipaulese specimens in the Leyden Museum. Blyth and Jerdon give Sumatra as the origin of Vieillot's type; but I have failed in finding their authority for the statement. Prince Bonaparte, with doubt, made it equal to *Bucco corvinus*, Temm.; but this is a very distinctly marked species, unlike any of the continental Green Barbets. It is possible, however, that the Sub-himalayan form, which extends into Assam and the countries east of Bengal, and, according to Dr. Jerdon, into the whole Indo-Chinese region, may prove to be same as the *B. faiostriatus*, Temm. (Pl. Col. 527), said to be from Cochin China; but the broad green band under the eyes, which is a chief character in Temminck's species, is wanting in the Indian and Tenasserim birds. A Cambodja specimen in my collection agrees tolerably well with the Tenasserim bird, especially in having the distinguishing pure albescent chin and throat. The length of the wings is equal; but the bill is shorter and much stouter. A second specimen from the same locality has the wings three fourths of an inch shorter and the bill less massive. Neither possesses a green sub-ocular band.

7. POLYPHASIA TENUIROSTRIS (J. E. Gray).

Cuculus tenuirostris, J. E. Gray, Hard. Ill. Zool., ii. pl. 34. f. 1 (1833).

No. 63, ♂. Moulmein.

"Irides dull red or brown red; legs yellow, with greenish tinge on upper parts." An adult with chin and throat only grey; upper breast, as well as entire under surface, pure rufous. Dr. Jerdon does not record the colour of the iris in this race, but states that of the grey-bellied Indian race to be "fine ruby red, in some brownish red." He considers the species from Burmah to be identical with that of Bengal.

8. ARACHNOTHERA MAGNA (Hodgs.).

Cinnyris magna, Hodgs. Ind. Rev. 1837, p. 272.

No. 28, ♂. Kyodan.

"Shot this specimen at Kyodan, Salween Valley, whilst busily feeding on the flower of the common plantain. Irides dark brown; legs bright orange-yellow; bill black." Jerdon gives the irides as light brown, but does not state in what locality his specimen was obtained. Compared with a Darjeeling skin in my collection no difference is to be detected. The southern limits of this species have yet to be determined.

P.Z.S. 1866, p. 511.

9. ÆTHOPYGA MILES (Hodgs.).

Cinnyris miles, Hodgs. Ind. Rev. 1837, p. 273.

Nectarinia goalpariensis, Royle, Ill. Him. Bot. 78, pl. 7. f. 1 (1839).

Nos. 68, ♂, 43, ♀. Moulmein; Salween Valley.

"Frequents *Amherstia*-trees in flower. Note, a loud piping. Observed on Salween trip in villages, feeding on the flowers of the cocoa-nut palm." "Not only frequents flowering trees, but low bushes and annuals near the ground when in flower. Secured a specimen on the common *Costus argyrophyllus*."

No. 43 is marked a female; but as it has the feathers of chin, throat, and breast strongly tinged with crimson, I am inclined to regard it as a young male, the females of the species, according to both Hodgson and Jerdon, being soberly plumaged, without any of the brilliant colours of the male. I have been unable to compare Himalayan specimens, which furnished Hodgson with his types; but Jerdon states that the Himalayan bird is found in the Burmese countries. If Tickell's *Nect. seheriæ* (J. A. S. B. 1833, p. 577), founded on a Borabhúm specimen, should prove to be identical with the Himalayan form, Hodgson's title of *miles* will have to give way. The utmost southern limits of this bird have yet to be defined. As yet it does not appear to have been discovered in the Malay peninsula.

10. ARACHNECTHRA FLAMMAXILLARIS (Blyth).

Nectarinia flammaxillaris, Blyth, J. A. S. B. 1845, p. 557.

Nos. 37, 45, 46, ♂; 38, 39, 51, 70, ♀. Kyodan, Salween Valley; Moulmein.

"A distinct semicircle of dull brick-red on breast, below the steel-blue neck-patch; below it, again, a few black feathers; irides reddish brown; feet and legs black. The female is pale olive-green, with a yellow breast, and wants the steel-blue throat of the male." Specimen no. 51 is assuming the steel-blue plastron, and has the orange-coloured axillary tufts fully developed. It is therefore probably a young male. The remaining three female specimens are in the sober plumage described above. In the colouring of the whole upper surface they closely resemble the male—so much so that, if specimens of the two sexes are viewed together only from above, it is difficult to detect any distinction. The tails in both, above and below, are alike, the white tips of the outer rectrices being equally prominent on the under surface. The only features which really distinguish the males are the bright flame-coloured tufts, the steel-blue plumage of the chin, throat, and breast, and the brick-red semicircle on the breast, which is difficult to detect in skins that have not been carefully prepared.

This species is nearly allied to the Javan *N. pectoralis*, Horsf. = *N. eximia*, Temm., but is to be readily distinguished by the absence of the frontal steel-blue patch of the Javan bird, which, also, has the abdominal plumage of a much deeper yellow, and consequently the axillary tufts do not contrast so strongly as in the Tenasserim species. The Philippine species, *N. jugularis* (Linn.), founded on Brisson's *Certhia philippensis minor*, is not to be distinguished by description from the Tenasserim bird; and Mr. Blyth, in 1843, identified specimens from Tenasserim with the *N. jugularis*, Vieill., of Sir W. Jardine's *Nectariniidæ*. Two years later he announced the Tenasserim form as belonging to an undescribed species, giving it the designation I have adopted, but without stating his reasons for no longer considering it the P.Z.S. 1866, p. 542.

same as *N. jugularis*, Vieill., apud Jardine. Having been unable to compare with a Philippine specimen, I cannot form an independent opinion; but we may with almost certainty assume that the specimens from the two localities will be found to specifically differ; indeed it will be a remarkable coincidence if they do not. Meyen has regarded *jugularis*, Linn., and the Javan *pectoralis*, Horsf., as young females of his *N. philippensis*, which appears to be equal to the *N. coccineogastra*, Temm.; but the two Philippine birds are almost certainly distinct, and Horsfield's title of *pectoralis* was given to a mature Javan male. *Cinnyris frenata*, Müll., from the Sula Islands, closely resembles the Tenasserim *flammaxillaris*, Blyth, in the distribution of its colours, but it is considerably larger. On the upper surface, like the Tenasserim bird, it wants the steel-blue frontal patch of the Javan *pectoralis*, Horsf.; but on the under surface the colour of the plumage is not distinguishable from that of the Javan bird. *N. solaris*, Temm., from Flores, is another of the same group; but where in *flammaxillaris* the abdominal plumage is pale yellow, and in *pectoralis* and *frenata* it is deep yellow, in *solaris* it is orange-red; while the frontal patch and the throat- and breast-plumage are metallic green (and not blue) black.

I refer *N. flammaxillaris* to the genus *Arachnecthra*, of which *Certhia lotenia*, Linn., is the type, in preference to separating it from that group and making it form a fifth species of Dr. Cabanis's genus *Chrysostomus*, founded for the reception of *C. jugularis*, Linn., *N. pectoralis*, Horsf., *N. frenata*, Müll., and *N. solaris*, Temm.; for it, as well as these four species, seem to me to be closely allied to the steel-blue Sunbirds of India and Ceylon, *A. lotenia* and *A. asiatica*. The character of the plumage in all these species evinces a common hereditary relationship. In *A. asiatica*, Lath., the entire plumage is metallic black; and in that species we find the blackness at its maximum; in *flammaxillaris* it is at its minimum, being confined to the pectoral plastron. *N. zenobia*, Less., exhibits an intermediate stage; for in it we find the whole under surface black, the upper being barely distinguishable from that of the Tenasserim bird.

On Mr. Blyth's authority, *A. flammaxillaris* is very common in Tenasserim. Arakan is its furthest known northern limit. Penang specimens do not appear to differ. How much further south it extends remains to be determined. To the west, in India proper, it is unknown.

P.Z.S. 1866,
p. 513.

11. LEPTOCOMA BRAZILIANA (Gm.).

Certhia braziliana, Gm. S. N. ed. 13 (1788).
Certhia brasiliensis violacea, Briss. Orn. iii. 662. n. 30, pl. 32. f. 4.
Nectarinia hasseltii, Temm. Pl. Col. 376. f. 3, ♂.
Nectarinia phayrei, Blyth, J. A. S. B. 1843, p. 1008.
No. 65, ♂.

"Moulmein. Irides dark brown; bill and legs black. Shot feeding on low flowering shrubs. Note, a low piping call." The single specimen sent has some of the chin- and throat-feathers white, the rest being of the brilliant amethystine purple of the species. The metallic occipital feathers consist chiefly of blue-green plumes, the outer only being yellow-green. When compared with Sumatran specimens its plumage does not appear quite so brilliant; and the shades of the metallic portions somewhat differ in colour. It closely resembles a Malaccan skin in my collection, and which is in perfect plumage. In this also the occipital feathers are more blue green than yellow green; and the throat-feathers appear to differ in their metallic glance from those of the Sumatran race. The bill likewise is slenderer, and all the dimensions are somewhat less.

Brisson described this bird in the clearest language from a skin in Réaumur's collection, to whom it was presented by M. de Vergène, who, according to Brisson, received it from the Brazils. Upon Brisson's authority Gmelin founded its title *braziliana*, and, although geographically inappropriate, I prefer adhering to the law of priority. At some future time some authoritative body of naturalists will have to agree upon those titles, of the older authors, which ought to be expunged. Temminck's type was from Java. Mr. Blyth's *N. phayrei* was described from an Arakan specimen.

I concur with Dr. Cabanis in placing this species in his genus *Leptocoma*. The female and young plumage is unrecorded. It has not hitherto been found further north than Arakan, and is unknown to the west in India proper.

12. ANTHREPTES SINGALENSIS (Gm.).

The Green Warbler, Brown, Zool. Ill. p. 82, pl. 32. f. 2.
Motacilla singalensis, Gm. S. N. ed. 13. p. 964. n. 86.
Sylvia cingalensis, Lath. Ind. Orn. ii. p. 533. n. 92.
Nectarinia phœnicotis, Temm. Pl. Col. 108. f. 1, ♂; 388. f. 2, ♀.
Anthreptes phœnicotis, Blyth, J. A. S. B. 1843, p. 279.
Nos. 41, 42, 64, ♂. Moulmein; Salween Valley.

"Frequents the tops of flowering trees, and has much the habits of a *Dicæum*. Female a little duller-coloured than male; generally seen in pairs. Irides dark red; bill brown; legs and claws dirty greenish yellow." The slightness of the distinction described by Captain Beavan between the sexes is interesting; but the three specimens sent are those of males. When compared with a Sumatran skin they appear less brightly and richly coloured. In the latter bird the rufous of the breast and throat is deeper in tone and descends lower down; it is separated from the yellow of the abdominal region by a more trenchant line. In the Tenasserim specimen the rufous dies away into the yellow; in them also the bill is decidedly longer, while in all the other dimensions they are inferior to the Sumatran bird. P.Z.S. 1866, p. 544.

Brown figured and described this species, in his 'Illustrations,' from a specimen said to have been from the "East Indies." Gmelin, in error, gave Ceylon as its habitat, although he founded his *M. singalensis* on Brown's description and plate. Latham fell into the same mistake; and hence in all the authors we find Ceylon recorded as the native country of Gmelin's species. Temminck, fully aware that Gmelin had previously described it, gave it another name; and Mr. Blyth, in 1843, unconscious that it had been previously named, gave it as a new name the one already used by Temminck. Mr. Blyth was the first author who referred the species to Swainson's genus *Anthreptes*, instituted for the reception of *Certhia malaccensis*, Scop.,=*Nectarinia javanica*, Horsf., and chiefly characterized by the stouter and straighter bill—with which species it appears to me to be closely allied. Dr. Cabanis has, in the 'Museum Heineanum,' separated it from *Anthreptes*, and made it the type of a new genus, *Chalcoparia*.

Tippera is the most northern region from which this species has hitherto been recorded. It is unknown in India to the westward of that country; and we possess no authentic record of its occurrence in Ceylon. Motley and Dillwyn state that this species occurs in Labuan; but specimens have to be compared.

13. Dicæum cruentatum (Linn.).

Certhia cruentata, Linn. S. N. ed. 12, p. 187 (1766).

Certhia coccinea, Scop. Del. Fl. et Faun. Insub. pars ii. p. 91. n. 63 (1786).

Nos. 56, 58, 66, 78, ♂; 49, 57, 69, ♀. Moulmein.

"♀. Bill and legs dark leaden; irides dark brown. Some black hairs on the head mixed with the scarlet feathers. Has the usual habits of the genus, frequenting high trees in flower. An especial favourite is a *Cathartocarpus* (*Cassia florida*, Vahl) when in flower. The call is a shrill piping, something like the ticking of a loud watch, but of course not regular, and more quickly repeated. It occasionally descends to flowering shrubs in the gardens. Tolerably common about Moulmein, but very difficult to procure, as it is almost impossible to see it amongst thick foliage without the aid of glasses. The note described above is generally uttered when starting in flight; another note when at rest may be syllabized tee-tee-tee."

Dr. Jerdon gives Scopoli's title the precedence; but that of Linnæus, founded on Brisson's description of Edwards's plate, is senior. Sonnerat's species, Scopoli's type, was said by that traveller to be from China. By Mr. Blyth (J. A. S. B. 1845, p. 558, in note) the Indian species is said to be common at Malacca. Specimens from that peninsula that I have seen slightly differ by being smaller, having a shorter bill, and by the black portion of the plumage being deep blue (rather than deep green) black; the red plumage is also of a richer tone. The complete range of the species has yet to be determined.

P.Z.S. 1866. p. 545.

14. Dicæum trigonostigma (Scop.).

Certhia trigonostigma, Scop. Del. Fl. et Faun. Insub. pars ii. p. 91. n. 64 (1786).

No. 54, ♀. Moulmein.

"Upper mandible pinkish brown, and tip of lower the same, graduating to yellow underneath; irides dark brown; legs leaden." In another note the gape is described as orange. Does not differ from Malaccan specimens of the female. This species has not been found further north than Arakan, and is unknown on the continent to the westward. Mr. Blyth states that it is found in Sumatra.

15. Pitta cyanoptera, Temm. Pl. Col. 218.

Pitta malaccensis, Blyth, J. A. S. B. 1843, p. 960, nec Scopoli.

Nos. 13, ♂, 14, juv. Korkarit Island, Salween River.

"Irides dark brown; skin behind eye leaden; legs pinkish fleshy; bill brown-black. Young bird: gape and tip of bill crimson-red; legs fleshy." Arakan, Tenasserim, and Malayan specimens of the form to which the examples sent belong have hitherto always been regarded by Indian ornithologists as of the same species as the Javan bird which furnished Temminck's type. But as yet no actual comparison with Javan specimens appears to have been made, and until that is done the question of identity must remain in doubt. The young bird is sordid in all its plumage, and has the first quill entirely black, the second with only a white spot. A Sumatran specimen in the Indian Museum has the white on the primaries very much restricted; it is also a larger bird, and may be specifically separated.

16. Graucalus macei, Less. Trait. d'Orn. p. 390.

No. 62. Moulmein.

When compared with specimens from Central India, the one sent exhibits no difference of plumage; and the dimensions are identical, save those of the bill being somewhat less.

17. Dissemurus paradiseus (Linn.)?

Cuculus paradiseus, Linn. S. N. ed. 12 (1766).

No. 19. Salween Valley.

A single specimen and in moulting plumage is sent. It represents one of the numerous races of which *C. paradiseus*, Linn., may be taken as the type. But it is in such indifferent order, the outer rectrices being absent, that without further specimens it is impossible to determine its position among the numerous races of the Racket-tailed Drongos.

18. Buchanga intermedia (Blyth)?

Dicrurus intermedius, Blyth, J. A. S. B. 1846, p. 298.

Nos. 27, 55, 60, 74, 79, ♂. Moulmein.

"This is the commonest species of *Dicrurus* in the gardens about Moulmein, and extends to my knowledge some distance up the Salween Valley. It is a pretty songster. Irides crimson-red. On the same trees as *Chaptia ænea*." These specimens belong to one of the numerous races of which *Dicrurus leucophæus*, Vieill., =*D. cineraceus*, Horsf., ex Java, may be considered the type. They may be termed Ashy Drongos, from the bluish ashy hue which, in darker or lighter shades, characterizes their plumage. They are very closely allied to another group of Drongos, the type of which is *B. longicaudata* (A. Hay); and although between some of the races of the two species the distinguishing characters are not at once apparent, yet individuals belonging to the group of Ashy Drongos are always to be recognized by their general ashy (rather than black) tone of colour, by the upper surface of the rectrices, especially the central pair, being greyish and only becoming black towards the tips, by the entire under surface of the body being dull ashy, without any silky gloss, save a slight indication on the breast, and by the tail being much less deeply forked, and its feathers considerably broader. The entire body-plumage is also of a looser texture, the webs being decomposed. At the same time the two groups possess many connecting links; and though the most superficial observer could not confound a Malabar specimen of *B. longicaudata* with a Javan specimen of *B. leucophæa*, other races, such as this one from Tenasserim, have to be carefully examined before it can be decided to which of the two groups they belong. At the foot of the Himalayas, certainly extending as far to the westward as the Deyra Doon, the two groups are severally represented, and the divergence between the two is very strongly marked; yet the large Ashy Drongo of the Himalayas has hitherto been confounded with *B. longicaudata* of Malabar and its allied races by both Messrs.

P.Z.S. 1866, p. 546.

Jerdon and Blyth. I refer Captain Beavan's specimens to Mr. Blyth's species with some doubt. Dr. Jerdon, in his recent work, reduces *D. intermedius*, Blyth, to a synonym of *D. longicaudatus*, A. Hay; yet Mr. Blyth's description appears to agree better with some individuals of the ashy group. Moreover he mentions that it is intermediate between *D. cærulescens* (Linn.) and *D. longicaudatus*, A. Hay, whence doubtless his designation; and at the time, Mr. Blyth was unacquainted with the true Javan *D. cineraceus* (Horsf.). Mr. Blyth's type came from Penang; and as I have never met with a specimen of Ashy Drongo, or of the other species, from so far south in the Malayan peninsula, I am unable to identify Mr. Blyth's bird; but in his 'Catalogue of the Calcutta Museum,' he has enumerated under this title another specimen from Moulmein. I have, however, good reason to believe that a race of the *longicaudatus* group also inhabits Tenasserim; and it is not impossible, it is even probable, that the Malayan race is distinct from that of Burmah. Until Penang specimens are actually compared with the Moulmein race, the correct title of the latter must remain undetermined. From the Javan species, these specimens differ by being altogether of a darker bluish ashy; the wings are of a P.Z.S. 1866, p. 547. greenish black, rather than a greenish ashy; the tail is more deeply forked, and not so decidedly cinereous on the upper surface; the bill is more compressed. All these points evince an approach to *D. longicaudatus*, and excite a suspicion of hybridism. But they are probably nothing but the characteristics of an intermediate species—a link of transition, many of which are to be found in the unstable family of the *Dicruridæ*. The type of Vieillot's genus *Dicrurus* being *Corvus balicassius*, Linn. (=*Edolius viridescens*, Gould, =*Balicassius philippensis*, Bp., ex Manilla), a totally distinct generic form, the long Fork-tailed Drongos must be referred to the next generic synonym, *Buchanga*, Hodgs., the type of which is *Edolius albirictus*, Hodgs., ex Nipaul. The following are the principal measurements of the Tenasserim race:—

Wing $5\frac{1}{8}$ inches; bill from nostril $\frac{5}{8}$; bill from forehead 1; uropygials $3\frac{7}{8}$; outer rectrices $5\frac{4}{8}$.

Somewhat larger than the Javan bird, it is considerably smaller than the Himalayan *B. pyrrhops*, Hodgs. The Himalayan race of *B. longicaudata* has yet to be described and named. It is a well-marked form, and very distinct from the Malabar type.

19. MIXORNIS RUBICAPILLA (Tickell).

Motacilla rubicapilla, Tickell, J. A. S. B. 1833, p. 576. no. 27.

No. 40. Salween Valley.

The type of this species was procured by Colonel Tickell in Burrubhoom, a district of Central India. When compared with specimens from Maunbhoom, a neighbouring district of Central India, this Tenasserim specimen exhibits no difference beyond that of the bill being perceptibly longer; and when compared with Himalayan specimens no difference whatever can be detected; and Mr. Hodgson's specific titles of *chloris* and *ruficeps* given to the Himalayan race have therefore been correctly superseded by Dr. Jerdon. In the 'Catalogue of the Calcutta Museum' Tenasserim is given as the habitat, not only of this species, but also of *M. gularis* (Horsf.). This last species is very distinct, and was founded on the *Motacilla gularis*, Raffles, Tr. Linn. Soc. xiii., his type being from Sumatra, and not from Java—a fact which has been overlooked by almost every writer, the mistake probably arising out of Raffles's bird having been figured and described by Horsfield in his 'Zoological Researches in Java.' Sir Stamford Raffles's type specimen still exists in the India Museum. It belongs to a species readily distinguishable from Tickell's bird, by being above almost uniform rufous brown, with a tinge only of olive on the nape and rump. The head, wings, and tail are alike, and of a still darker brown. Underneath it closely resembles the continental species, but is brighter yellow, and has the throat more boldly streaked. A second and fresh specimen from Sumatra is in my collection, and is identical with the type. Malacca possesses a species which is very nearly allied to, if not identical with, the Sumatran form. The Javan race, hitherto by all authors referred to *Timalia gularis*, Horsf., is figured in the 'Planches Coloriées,' and is there described, as also by Prince Bonaparte in the 'Conspectus,' as having the throat white. From both these descriptions it also appears to possess other characters which distinguish it from the true Sumatran *gularis* and the continental *rubicapilla*. Of the Javan form I have not seen a specimen; but should it prove really as distinct as the descriptions make it, it will require a new designation; for we may assume that it is not *Timalia flavicollis*, Müll., described by Bonaparte in the 'Conspectus' and ranked as a *Mixornis*. Temminck (Pl. Col. pl. 442. f. 1), however, after an examination of thirty specimens sent to him from Java and Sumatra, considered the races from those two islands to be identical.

P.Z.S. 1866, p. 548.

Prince Bonaparte, having mistaken the Javan bird for Raffles and Horsfield's species, described, in the 'Conspectus,' from a specimen in the Leyden Museum, the Sumatran form as new, under the title of *M. sumatranus*. This title must be expunged. The Malaccan race supplied the type of Mr. Blyth's *Prinia pileata* (J. A. S. B. 1842, p. 204, where he adds that it is also found in Tenasserim). In his catalogue, while making *P. pileata* a synonym of Horsfield's *gularis*, he continues to cite the Tenasserim provinces as its habitat. No Tenasserim specimens of the Malaccan form existed in the Calcutta Museum when the Catalogue was compiled; and its occurrence so far north probably will require further confirmation.

The following is a recapitulation of the synonyms of the three species. In the absence of a greater number of examples for comparison, the permanent nature of the slight differences existing between the Tenasserim bird and that of Central India, and between the Malaccan race and that of Sumatra, cannot be established:—

1. *Motacilla rubicapilla*, Tick. Central India.
   Mixornis chloris vel *ruficeps*, Hodgs. Nipaul.
   No. 40. Beavan's Collection.
2. *Motacilla gularis*, Raffles. Sumatra.
   Timalia gularis, Horsf. Sumatra.
   Mixornis sumatranus, Bp. Sumatra.
   Prinia pileata, Blyth. Malacca.
   Mixornis gularis, Horsf. apud Blyth. Malacca.
3. *Mixornis gularis* (Horsf.) apud Bp. Java.
   Myothera gularis, Temm. Java.

20. Garrulax belangeri, Less., Bél. Voy. aux Indes, p. 258, pl. 4.

Nos. 15, ♂, 17. Salween River; Kyodan.

"Irides dark red; bill black; legs leaden." According to Jerdon the irides of the Himalayan *G. leucolophos* are red brown, and in some brownish yellow. Although without a Pegu example for comparison (Lesson's type being from that country), the specimen sent agrees so well with Lesson's description that I have little hesitation in considering it of the same race. When compared with Darjeeling specimens of *G. leucolophos*, Hardw., the distinctive characters of these two closely allied forms are self-evident. A third race, from some part of Siam, is represented by a specimen in my collection. In it the entire under surface is white, the thigh-coverts and flanks only being rufous. The nape is considerably more ashy, and the upper surface much brighter ferruginous, than that of the Tenasserim race. The upper tail-coverts are olive rufescent, and the primaries are of a ruddier brown, their outer edges being tinged with olive. The wing, which in *G. leucolophos* and *G. belangeri* measures 5 inches, somewhat exceeds that length. The bill is equal in length to that of *G. belangeri*, but is longer by an eighth of an inch than that of *G. leucolophos*. The tarsus in all three is equal. I propose the specific name of *leucogaster* for this race. P. Z. S. 1866, p. 519.

21. Garrulax chinensis (Scop.).

Le petit geay de la Chine, Sonn. Voy. aux Indes, ii. p. 188, pl. 187.

Lanius chinensis, Scop. Del. Fl. et Faun. ii. p. 86. n. 17.

No. 16, ♀. Salween River.

"Shot in company with *G. leucolophos* (Hardw.)." (*G. belangeri*, Less.) "Irides crimson-red; legs dirty brown." Tenasserim and, perhaps, some of the regions to the north appear to be the true and only habitat of this species.

22. Pycnonotus? finlaysonii, Strickl.

Pycnonotus finlaysonii, Strickl. A. N. Hist. 1844, p. 411.

Nos. 53, ♂, 73, ♀. Moulmein.

"This bird is certainly very common, in small parties of three or four; they seldom venture far from thick cover, and have a pleasant call. Like *P. nigropileus*, Blyth, it occasionally frequents low bushes. Irides brown; legs bluish plumbeous; bill dark horny plumbeous." No distinction to be observed between the sexes. The specimens sent most certainly belong to Strickland's species, the type of which was from, to him, some locality unknown, "probably from some of the Malayan islands." The affinities of this species seem to point to *Ixos*.

23. Pycnonotus nigropileus, Blyth, J. A. S. B. 1847, p. 472.

No. 76, ♂. Moulmein.

"Common, in small parties, about Moulmein, searching for insects amongst flowering creepers. Bill black, with a slightly plumbeous tinge; legs more leaden." A good species. *P. hæmorrhous* (Gm.) is said by Mr. Blyth to replace it in Arakan (J. A. S. B. 1863), while in Bengal we only find *P. pygæus*, Hodgs. But Dr. Jerdon inclines to the opinion that Arakan individuals belong to a distinct race. It would be interesting to know the extreme northern and southern limits of the Tenasserim bird.

24. Iora typhia (Linn.).

Motacilla typhia, Linn. S. N. ed. 12. i. p. 331. no. 13.

No. 59, ♂. Moulmein.

"Plentiful in thick trees. Irides greyish white; bill leaden blue, darker only on ridge of upper mandible; legs leaden blue; claws brownish, and soles dirty yellow. This specimen agrees with Jerdon's description of *I. zeylanica* (Gm.) in having the 'bill light plumbeous, darker on the ridge, irides greyish white, and the central tail-feathers partly green and partly black;' but there is no black on the head, and the measurements are nearer *I. typhia*." In the specimen sent the whole of the tail is black. The mixture of green with the black of the tail in *I. zeylanica* (Gm.) appears only to accompany an imperfect state of the upper plumage. Two specimens from Candeish have the tail-feathers partially edged with green; but they are skins of moulting birds. P.Z.S. 1866, p. 550.

The bill in *I. typhia* is longer. This Tenasserim specimen agrees in every respect with a Central Indian specimen of *I. typhia*. A specimen of a female *Iora*, from Malacca, before me has the bill longer and more slender than that of the Tenasserim bird, and the wing much shorter. Mr. Blyth gives in his Catalogue both *typhia* and *scapularis*, Horsf., from Malacca; but I am inclined to doubt the occurrence of both forms in the Malay peninsula. My long-billed specimen may be the true *scapularis*, or else belong to a distinct and undescribed Malayan race.

25. Oriolus melanocephalus, Linn.? S. N. ed. 12. i. p. 160. n. 3.

No. 48, ♀. Moulmein.

"Common everywhere. A male in beautiful plumage is only 8⅝ inches in length. Jerdon makes his 9½. My bird, too, agrees with the description of *O. ceylonensis*, Bp., in having the black patch on central tail-feathers 1½ inch in length, instead of ½ an inch, as said by Jerdon to be the case with *O. melanocephalus*." As a female specimen only is sent, it is difficult to decide to which of the two nearly allied races this one from Moulmein belongs. I have compared it with a number of female skins from Ceylon and can detect no distinction in either colouring or dimensions. It is also smaller than Central Indian female specimens of true *melanocephalus*. Mr. Blyth (J. A. S. B. 1863, p. 79) remarks that the race found in Burmah and extending down to the Malayan peninsula is quite similar to *O. melanocephalus* of Bengal. But the variations of the Black-headed Orioles throughout Southern Asia require further investigation.

26. Copsychus saularis (Linn.)?

Gracula saularis, Linn. S. N. ed. 12. i. p. 165. n. 6.

No. 72, juv. Moulmein.

"Abundant about Moulmein."

27. Kittacincla macroura (Gm.)?

Turdus macrourus, Gm. S. N. ed. 13. i. p. 820. n. 67.

No. 44, ♂ juv. Salween River.

"The specimen is two-thirds grown, and was killed in thick forest jungle on the Salween at Meezain."

This and the last species are represented by specimens too immature to enable their identity with the types to be established.

P.Z.S. 1866, p. 551. 28. Prinia beavani, sp. nov.

Nos. 35, 36, ♂. Schouay Goon, Salween River.

"Irides reddish yellow; legs fleshy; beak black, horny. Shot in low jungle."

The two specimens sent belong to a species unknown to me; nor do they agree with the descriptions of any of the Wren-Warblers inhabiting India given by Dr. Jerdon. And I have failed in finding exactly similar specimens in the British Museum and other London collections. It is a well-marked form, having the head and nape dull cinereous brown, contrasting distinctly with the slightly ruddy brown of the dorsal plumage. The upper surface of the wings and tail is of a similar colour, the outer edges of the primaries being edged with ferruginous. From the nostril, and extending over and a little beyond the eye, a bold pure-white band. The chin, throat, cheeks, breast, and belly pure white. The under wing-coverts, under tail-coverts, thigh-coverts, and flanks fulvous. The rectrices, which in the specimen sent are comparatively short, are tipped with dirty white, which edges a dark brown terminal spot, showing through to the upper surface. The remaining under surface of the rectrices is pale brown, similar in hue to the under surface of the quills, the inner edges of these latter being pale ferruginous. The tail consists of ten feathers, which are graduated; the first primary is about two-thirds the length of the second, which is considerably shorter than the third; the fourth is longer than the third, and but slightly shorter than the fifth, which and the sixth are equal and longest; the seventh is equal to the fourth.

Wing $1\frac{11}{16}$ inch; tail $1\frac{6}{8}$; bill from forehead $\frac{4}{8}$, from nostril $\frac{5}{16}$; tarsus $\frac{6}{8}$; hallux $\frac{2}{8}$; middle toe $\frac{7}{16}$.

This species appears to be most closely allied to *P. cinereo-capilla*, Hodgs.

29. Corydalla rufula (Vieill.).

Anthus rufulus, Vieill. Dict. d'Hist. Nat. xxvi. p. 494 (1818).

No. 71, ♀. Moulmein.

The specimen sent is not distinguishable from Central Indian examples. *Anthus malayensis*, Eyton, is a somewhat smaller bird; but although regarded as distinct from *C. rufula* by Messrs. Horsfield and Moore, I find a difficulty in detecting the specific differences.

30. Melanochlora sultanea (Hodgs.).

Parus sultaneus, Hodgs. Ind. Rev. 1836, p. 31.

No. 21, ♂. Kyodan, Salween River.

"In small flocks, rather noisy, in dense tree-jungles. Irides dark brown; bill greenish black." A young male in immature plumage, the yellow crest hardly extending beyond the nape, and the dark portion of the plumage being of a dull greenish brown. Specimens from Penang and Darjeeling do not differ, and the geographically intermediate Tenasserim race seems to be identical with them. I give Mr. Hodgson's designation precedence over that of Lafresnaye,
P.Z.S. 1866, p. 552. on the authority of the date cited by Dr. Jerdon. Sumatran specimens have yet to be

compared with continental, and if found to be specifically distinct will have to take Lafresnaye's title of *flavo-cristatus*. Prince Bonaparte ('Conspectus') keeps the two separate, but gives no other distinction than that of size, Hodgson's species being, according to the Prince, the smallest. However, this statement is not quite reliable, for the Prince records them both from the Himalayas.

31. MUNIA ACUTICAUDA, Hodgs. As. Res. xix. p. 153 (1836).

No. 67, ♂. Moulmein.

A larger bird than Darjeeling specimens in my collection. Bill stouter and longer; colouring much deeper. Above not to be distinguished from Malabar specimens of *M. striata* (Linn.), but wanting the uniform deep-brown breast and pure-white belly of that species. Formosan specimens agree much better with the Himalayan race.

32. MUNIA UNDULATA (Lath.).

Loxia undulata, Lath. Ind. Ornith. i. p. 387.

Nos. 30, 31, 50. Moulmein; Schouay Goon, Salween River.

"Irides dark sienna; legs light violet; beak plumbeous, and eyelids the same. Common along the banks of the Salween River. *Thór-za* or *Tow-za*, Burmese, *i. e.* Jungle-Sparrow." The continental race is considered by Horsfield and Moore as distinguishable from the Javan bird (*Loxia punctularia*, Linn., =*F. risoria*, Temm.) by the whitish grey on the rump, upper tail-coverts, and tail of the Javan race being exchanged for glistening fulvous in the continental species. From want of authentic Javan specimens I am unable to confirm this opinion; but a Flores specimen in my collection has the upper tail-coverts and margins of the rectrices glistening fulvous as in the Indian race, but of a paler hue. It is also a smaller bird than these Tenasserim specimens.

33. CRYPSIRHINA VARIANS (Lath.).

Corvus varians, Lath. Ind. Orn. Supp. p. 26 (1790).

Nos. 61, ♂, 47, ♀. Moulmein.

"Tolerably common in the neighbourhood of Moulmein, frequenting large trees in parties of seven or eight. Has a rather harsh call. Irides bright blue?" The sexes do not appear to differ. Compared with a Javan specimen I can detect no further distinction than in the greater lustre of the Javan bird's plumage. The dimensions are equal. It has not been discovered lower in the Malay countries than Mergui.

34. ACRIDOTHERES FUSCUS (Wagler).

Pastor fuscus, Wagler, Syst. Av. sp. 6 (1827).

No. 75, ♂. Moulmein.

"Irides bright yellow; bill and legs bright yellow, the former with a bluish-green tinge at base of lower mandible." Tenasserim individuals are regarded by Mr. Blyth as identical with those inhabiting Bengal, and agree in having bright yellow irides; while those from Southern India (*P. mahrattensis*, Sykes, P. Z. S. 1832), otherwise nearly similar in plumage, are distinguishable by having the irides white or greyish white. P.Z.S. 1866, p. 553.

From the Andamans.

1. Halcyon capensis (Linn.).

Alcedo capensis, Linn. S. N. ed. 12, i. p. 180. no. 9 (1766).

Ispida capitis bonæ spei, Briss. Orn. iv. p. 488. no. 8.

No. 3. Port Blair, Andamans.

If we resolve to regard all the local races of this Kingfisher, or any of them, as constituting so many distinct species, we must dissever the *A. capensis*, Linn., from the *A. leucocephalus*, Gm. Of the Linnæan species we possess a detailed description in Brisson's 'Ornithologia;' and with it this Andaman specimen very nearly agrees. The upper part of the head is "cinereous inclining to fulvous," and forms a distinct cap. Dr. Jerdon observes, when writing on the Indian form, that specimens from the east, and especially from Tenasserim, have the cap "albescent or dirty brown." Its blues are not pure, but greenish as in Brisson's type. *A. leucocephalus*, Gm., founded on Buffon's 757th plate, represents the form in which the occipital plumage is uniform with that of the neck, nape, and under surface, the cap being therefore absent, and in which the blues are pure, rich, and brilliant. A Sarawak specimen in my collection fully answers to Buffon's account and plate, even to the brown striæ of the occiput, this appearance being the result of each feather having a dark brown centre at its base, and being but narrowly edged with fulvous. When these feathers normally overlap one another, the occiput appears of a colour uniform with the nape, the brown centre of each feather being invisible; but if any of them are disarranged the occiput puts on the appearance shown in Buffon's plate. Thus *A. capensis*, Linn., forms the type of all the races with a coronal patch, and *A. leucocephalus*, Gm., of those in which the cap is wanting. To the first belong the Hindostan and Ceylon birds, the Bengal race having been accurately described by Captain Pearson (J. A. S. B. 1841, p. 633) under the name of *H. gurial*; and if all the Indian specimens are, as Dr. Jerdon states, uniformly brown on the head, Pearson's name must be applied to them. A Flores specimen in my collection has the head and crest dark brown, as in Ceylon specimens of mine. But while in the Ceylon bird, which seems to be identical with *H. gurial*, Pears., the scapulars and wing-coverts are dingy greenish blue, in the Flores bird the blue is intense and perfectly pure, as in the Sarawak specimen. The variations of this widely extended form have yet to be studied. Dr. Cabanis observes (Museum Heineanum, i. p. 156) that every degree of variation is to be found in a series of specimens of this species; but he does not mention whether he was certain of the localities from which each specimen came. My experience of the form is the same as that of the learned doctor, but with this addition, that the varieties are coincident with changes of locality, but are never found occurring in specimens from one and the same locality.

P.Z.S. 1866, p. 554.

2. Halcyon smyrnensis (Linn.).

Alcedo smyrnensis, Linn. S. N. ed. 12, i. p. 181. no. 11 (1766).

Nos. 9, 12. Port Blair, Andamans.

No. 9 specimen has the bill half an inch shorter than that of no. 12, and yet does not exhibit any traces of adolescent plumage. The bill of no. 12 specimen is much stouter and longer than that of any one of a large series of Ceylon, Camboja, and Central Indian specimens;

but does not exceed that of some collected in Candeish. In colour and its distribution I can detect no distinction between it and the specimens I have mentioned. Variation in the depth of the chestnut-brown plumage is to be found in all specimens, but this variation appears to be consequent on the age of the bird. Relying on the opinion of Mr. Strickland, I have not separated the South Asiatic from the West Asiatic forms.

3. TODIRAMPHUS COLLARIS (Scop.)?

Alcedo collaris, Scop. Del. Flor. et Faun. Insub. ii. p. 90. no. 56 ? (1786)

No. 11. Andamans.

A single specimen of what I believe to be the same as the Bengal and Malayan form has been sent from the Andaman Islands. The group of local species, of which it forms one, has yet to be worked out. Temporarily I follow Messrs. Jerdon and Blyth in referring the Indian and Malayan race to Scopoli's species, although it must prove eventually to be distinct; for Scopoli's *A. collaris* was founded on Sonnerat's *Martin-pêcheur à collier blanc des Philippines. Alcedo chloris*, Bodd., founded on Buffon's 783rd plate, would take precedence of Scopoli's designation, could the origin of Buffon's type be shown. Buffon tells us that it is the same as a species seen by Commerson in the island of Bouru, and described by him. If so, *A. chloris*, Bodd., must belong to the Bouru form, and anyhow takes precedence of *A. chlorocephalus*, Gm., likewise founded on Buffon's 783rd plate. A Bouru specimen in my collection differs widely from the Andaman specimen sent. If the Philippine species does prove to be distinct from the Bengal and Malayan bird, this last will require another title; and that of *occipitalis*, Blyth (J. A. S. B. 1846, p. 23), given by that author to young examples from the Nicobars, may perhaps have to be adopted, unless the Nicobars do possess a race deserving of specific distinction; for, although Mr. Blyth at a later date (Cat. Mus. A. S. Bengal) cancelled the species, according to him it does vary, both in the young and adult state, from the common Bengal bird. If this variation be found to be constant, the Bengal and Malayan bird will require another name. I prefer following the majority of ornithologists in retaining this species in Lesson's genus rather than separating it under Dr. Cabanis's generic title *Sauropatis*.

4. PALÆORNIS NICOBARICUS, Gould, Birds of Asia. P.Z.S. 1866, p. 555.

Palæornis erythrogenis, Blyth, J. A. S. B. 1846, p. 23, nec Fraser, P. Z. S. 1850, p. 245.

Nos. 4, 5, 6. Andamans.

These three specimens appear to belong to this species. The type came from the Nicobars, to which islands, according to Mr. Blyth, in 1846 it was supposed to be restricted. Not having been able to compare Captain Beavan's specimens with Nicobar individuals, I am unable to assert their identity positively.

5. ARTAMUS LEUCOPYGIALIS, Gould (?), P. Z. S. 1842, p. 17.

Nos. 7, ♂, 10, ♀. Andamans.

The male specimen is that of a mature bird. The one marked a female is in the usual dingy brownish speckled plumage of adolescence; it may, however, be a young female. At least four species of Swallow-Shrikes, with white rumps and under surface, have up to now been regarded as distinct:—1st, *Lanius leucorhynchus*, Gm., from the Philippines; 2nd, *Lanius leucogaster*, Valenc., ex Manilla and Timor; 3rd, *Ocypterus papuensis*, Temm., ex New Guinea and Timor (apud Bp.); 4th, *Artamus leucopygialis*, Gould, ex Australia. Prince Bonaparte has distinguished the three first from each other solely by their comparative dimensions.

Lanius leucorhynchus, Gm., was founded on *Lanius manillensis*, Briss. (Orn. ii. p. 180), and is equal to *Lanius dominicanus*, Gm., founded on Sonnerat's *Pie-griesche Dominiquaine des Philippines* (Voy. Nouv. Guin. p. 55, pl. 25, and also figured by Buffon, Pl. Enl. pl. 9. f. 1). This species Valenciennes (Mém. du Mus. 1820, vi. p. 27) partly includes under his *Ocypterus leucogaster*, the characters of which he appears to have drawn, not from Manilla, but from Timor specimens at the time preserved in the Paris Museum. He tells us that, as all the species of the genus have the bill blue, and not white, he preferred altering Gmelin's designation to that of *leucogaster*. I have failed in seeing a Manilla specimen; but Brisson gives the colour of the bill as *gris-blanc*, and Sonnerat states it to be *grisâtre*. Both these authors described the darker portions of the plumage as very dark; the first uses the expression *noirâtre*, while Sonnerat says that they are black; and they are represented as black in both Buffon's and Sonnerat's plates. Valenciennes described his specimens as having the head, throat, wings, and the tail above *ardoisées*. He adds that there is no more reason for adopting the title of *leucorhynchus* than there is for adopting that of *dominicanus*. Thus it would appear that the Manilla species is altogether a darker bird than that of Timor, and that Valenciennes had not seen it.

Two specimens obtained by Mr. Wallace, one in Mysol and the other in Lombok, agree in every respect with the description of *A. papuensis*, Temm. (Consp. G. Av. i. p. 342), and the habitat of which is there given as Timor and New Guinea. But may not these really represent the true *leucogaster*, Val.?

P.Z.S. 1866, p. 556. The Javan and Sumatran races (*Leptopteryx leucorhynchus* (Gm.), Horsf. Tr. Linn. Soc. xiii. p. 306) only have been referred by Prince Bonaparte to *leucogaster*, Val.; but as Valenciennes omits all mention of specimens from those islands, the adoption of his designation does not appear to be well founded. If this form does differ from the two preceding, it would seem to be without a title, were it not probable that the Andaman race is identical with it; for on comparing Captain Beavan's specimens with a Moreton Bay example of *A. leucopygialis*, Gould, I can detect no distinctions between them. Actual comparison must, however, be made with Javan and Sumatran individuals.

6. ONYCHOPRION MELANAUCHEN (Temm.).

Sterna melanauchen, Temm. Pl. Col. 427.

No. 8. Andamans.

In full plumage.

On the Muscicapa melanictera *of Gmelin.* By the Viscount WALDEN, F.L.S., F.Z.S., &c. [From 'The Ibis,' 1866.]

Ibis, 1866, p. 316.

FORMING part of a large collection of birds recently made in the island of Ceylon by my friend Mr. Spencer Chapman, are three skins of Le Vaillant's "*Cap Nègre*," a species whose correct systematic title has not hitherto been satisfactorily determined. In the hope of being able to refer that species to its oldest specific designation, I trust that a few observations on the subject will not be unacceptable to the readers of 'The Ibis.' Before, however, entering into the history of this bird, I will give a short description, taken from the specimens I have just received.

The entire head, nape, and cheeks intense, yet unglossed, black; remainder of the whole upper surface of the body yellowish olive-green. Margins of the outer webs of all the wing-feathers more or less of the same colour, the outer edges of the primaries being somewhat yellower. Quills and rectrices hair-brown; inner margins of all, except the first primary, edged with yellowish-albescent, increasing in extent with every succeeding quill, commencing with the second. Upper surface of the tail brown, as in the quills; middle rectrices faintly edged with the olive-green of the upper plumage, external pairs more decidedly so; under surface of rectrices pale brown, all with white or albescent terminal bands, the middle pair excepted. Entire under surface rich saffron-yellow, purest on the chin, throat, abdomen, and under tail- and wing-coverts. Wing 3·75 inches; tail 3·25 inches. Iris brown in the female. Bill and feet black. The upper and under tail-coverts are very much developed; the first covering fully half the basal portion of the tail, the last extending even further. Ibis, 1866, p. 317.

Le Vaillant described his "*Cap Nègre*" from six individuals sent to him from Ceylon; and the specimens received by me from the same island agree entirely with his description. Although the examples were sent to him in the flesh, Le Vaillant tells us that he was unable, on moistening the bodies, to discriminate the sexes, in consequence of the decayed condition of the organs. A seventh specimen in the same collection he regarded as the female, as it only differed from the other six in the shade of its colouring, the head being brown instead of black, the upper plumage isabelline-yellow rather than olive-yellow, the under surface pale yellow; and also by being somewhat smaller in size. These two forms are represented in his plate 140, the colouring of the figures having been either originally very dull or else having since become faded; the distribution of colour is accurately enough given. Upon "*Le Cap Nègre*" Vieillot founded his *Ægithina atricapilla*, he having instituted the genus *Ægithina* in the 'Analyse' (1816) for the reception of his *Sylvia leucoptera**. In the 'Nouveau Dictionnaire' he introduced *Le Cap Nègre* as the first species of the genus, associating it with *Le Quadricolor*, Le Vaillant (*Motacilla zeylonica*, Gm., *Æ. quadricolor*, Vieill.). He apparently had no better or other reason for thus uniting under the same genus these two dissimilar forms, than the fact that the plates representing the two birds succeeded one another in Le Vaillant's great work. Ibis, 1866, p. 318.

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* The genus *Ægithina* would take precedence of *Iora*, Horsf., if it could be satisfactorily demonstrated that the *Fauvette leucoptère*, Vieill. (Ois. de l'Am. sept.), was based upon a specimen of *Motacilla tiphia*, L.

Drapiez followed suit; for while giving our bird another specific name, *nigricapilla*, he referred it to Horsfield's genus *Iora*, which was founded on the Javan form of *I. typhia* (*I. scapularis*, Horsf.). In the Catalogue of the Calcutta Museum, Mr. Blyth removed *Æ. atricapilla*, Vieill., to the genus *Pycnonotus*, Kuhl; but later, in the addenda to Appendix II. of that Catalogue, he suggested that Drapiez's specific title would have to stand in preference to Vieillot's, as the *Muscicapa atricapilla*, Vieill.[*] (Sonnerat's *Gobe-mouche à tête noire de la Chine*), was also a *Pycnonotus*. If it were necessary, upon the grounds of priority alone, to decide the point of precedence, this last name, instead of having to be preferred, would have to give way, as it was published in 1818, two years later than that of *Æ. atricapilla*, Vieill. But the two species are generically separable, and the priority of their specific names cannot come into conflict, *M. atricapilla*, Vieill., belonging to the group of which *Muscicapa hæmorrhusa*, Gm., is the type, while *Æ. atricapilla*, Vieill., belongs to the same genus as *Turdus dispar*, Horsf., and *Brachypus rubineus*, Jerd.,—the first being the type of *Brachypus*, Sw., the last of *Rubigula*, Blyth. However, in framing his 'Catalogue of Ceylon Birds,' Kelaart adopted Drapiez's specific title, introducing *R. gularis* (Gould) into the list as an additional species.

Ibis, 1866, p. 319.

In 1835, under the name of *Brachypus gularis*, Mr. Gould described a bird said to be from Travancore. The description given agrees in every respect with my Ceylon specimens, and consequently with *Le Cap Nègre*. A few years later, Dr. Jerdon, in his 'Catalogue of the Birds of Southern India,' described a short-footed Thrush from Malabar, under the title of *Brachypus rubineus*, which species, in the distribution of the colouring, and, indeed, in the actual tints of the upper surface of the body-plumage, very closely resembles my Ceylon specimens; but it is of a somewhat smaller size, and the coloration of the under surface, as well as that of the wings and tail, is very different. The chin is black, the throat a bright flame-coloured orange, and the remainder of the under plumage is more of an orange than a saffron-yellow. The quills and rectrices are olive-brown, and much paler than those of my Ceylon specimen, and the white terminal caudal band is wanting. Dr. Jerdon gave a good figure of this bird in his 'Illustrations of Indian Ornithology' for 1846, at the time suggesting that his might be the same bird as Mr. Gould's *B. gularis*, and remarking that although Mr. Gould had omitted a description of the throat, it was probably through error, "as the specific name is derived therefrom." Now this was merely a surmise of Dr. Jerdon, and did not rest upon a comparison made between the two types. To me it appears improbable that the most prominent feature in *B. rubineus*, its bright orange throat, should have been omitted in Mr. Gould's diagnosis. The name *gularis* might most appropriately have been given to a specimen of the Ceylon bird; for in it the yellow of the throat is very much narrowed by the black of the bordering cheek-plumage, and contrasts, by its greater purity, with the more olive-yellow of the breast. Anyhow, as Mr. Gould's description does not resemble *B. rubineus*, Jerd., in its most essential character, and does agree in every respect with *Le Cap Nègre*, I am obliged to make it a synonym of the latter species;

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[*] This species has been figured in the 'U. S. Japan Exp.' (vol. ii. p. 241, pl. 6, Orn.) under the title of *Ixos hæmorrhous* (Gm.), Mr. Cassin having regarded it as the true *Muscicapa hæmorrhusa*, Gm. Gmelin's species, however, was based upon the *Red-vented "Flycatcher"* of Brown's 'Illustrations,' which comes from Ceylon. An extensive series of specimens of this species is contained in the collection I have just received. They in no way differ from Malabar and South-Indian examples.

and when we consider the number of Malabar species that also exist in Ceylon, the supposed Travancore origin of Mr. Gould's type is not an insuperable objection to such a reduction. I also see that Mr. Gray, in his 'Genera of Birds,' keeps *B. gularis*, Gould, and *B. rubineus*, Jerd., distinct, while Sundevall makes *B. gularis*, Gould, a synonym of *Le Cap Nègre*.

In a synopsis of the *Brachypodinæ*, published in the 'Journal of the Asiatic Society of Bengal' (for 1845), Mr. Blyth had adopted Dr. Jerdon's view of the identity of the two species; in Ibis, 1866, p. 320.
this he was followed by Prince Bonaparte in the 'Conspectus.' And in the 'Birds of India' Dr. Jerdon has continued to regard them as identical, but for no better reason, so far as I can discover, than his original surmise above mentioned. A year later Mr. Blyth, in the same journal, gave a description of a specimen he had received from Ceylon, evidently, by his account, identical with the *Cap Nègre*. To this species, while extremely doubtful whether it might not prove to be the female of *B. rubineus*, Jerd., he gave the provisional name of *aberrans*. In the 'Catalogue of the Calcutta Museum,' Mr. Blyth correctly reduced this name to a synonym of *Æ. atricapilla*, Vieill., thus ceasing to regard it as a female bird; at the same time he allowed Dr. Jerdon's *rubineus* to rank as a distinct species. In his 'Ornithology of Ceylon' Mr. Layard recorded it as *Pycnonotus atricapillus*. In the Supplement to the 'Genera of Birds' Mr. Gray gave the specific name of *monachus* to Vieillot's *Ægithina atricapilla*, and made it a *Parus*; and Prince Bonaparte, in 1854, made the same species the type of his genus *Meropixus*, he having previously erroneously referred it to Swainson's African genus *Parisoma*.

But long before Le Vaillant published his plate and description of *Le Cap Nègre*, Brown had figured and described a bird, procured in Ceylon by Governor Loten, under the name of the "Yellow-breasted Flycatcher." His words are these:—"Head and cheek black. Back and coverts of wings cinereous brown, dashed with yellow. Primaries and tail dusky, edged with pale yellow. Breast and belly of a fine yellow." The figure, although wretched in an artistic sense, repesents a yellow bird with a black head and black cheeks, and with white tips to the under surface of the rectrices. Upon this figure Gmelin founded his *Muscicapa melanictera*, a species we find admitted by many subsequent authors, but by none identified. Prince Bonaparte, as far as I have been able to discover, is the first author who referred it to a known species; and he, singularly enough, made it a synonym of Gmelin's *Motacilla* (*Iora*) *zeylanica*. Now this species was also founded by Gmelin on one of Brown's figures, the "Ceylon Black- Ibis, 1866, p. 321.
cap" of his 'Illustrations;' and, apart from the extreme improbability of Brown having described and figured the same bird twice over in the same volume, or that Governor Loten, a good naturalist, should have regarded specimens of the same species as belonging to two different species, the figures and descriptions do not agree with one another. The figure of the "Ceylon Blackcap" represents that bird with yellow cheeks, while that of the "Yellow-breasted Flycatcher" represents them as black. In the first bird the two characteristic white alar bars of *Iora zeylanica* are distinctly shown; in the other the wing is uniform in colour. Lastly, the white terminal caudal markings represented in the figure of the "Yellow-breasted Flycatcher" distinguishes it at once from *I. zeylanica*. It must be borne in mind that it is universally admitted that Brown's "Ceylon Blackcap" is an *Iora*. If we compare the two descriptions, we find internal evidence which makes it impossible to believe that they are taken from the same species. Brown's description of the "Yellow-breasted Flycatcher" agrees in all respects with

my Ceylon specimens, and they equally resemble Le Vaillant's account of the *Cap Nègre*. With perfect confidence, therefore, I propose to restore *Muscicapa melanictera*, Gm., to a place in our catalogue of real and distinct species, and to expunge Vieillot's title of *atricapilla*.

In this view the synonymy of this species will be as follows:—

RUBIGULA MELANICTERA (Gm.).

Yellow-breasted Flycatcher, Brown, Illust. 80, pl. xxxii. fig. 1 (1776); Lath. Gen. Syn. iii. 336. no. 21 (1783); Gen. Hist. 187. no. 50 (1823).

Muscicapa melanictera, Gmel. S. N. i. 941. no. 55 (1788); Lath. Ind. Orn. ii. 475. no. 28, (1790).

Le Cap nègre, Le Vaill. Ois. d'Afr. iii. 172, pl. 140. fig. 1 (1802).

Ægithina atricapilla, Vieill. N. Dict. i. 176 (1816).

Le Gobe-mouche Malkola-Kourla, Vieill. xxi. 473 (1818).

Black-capped Tanager, Lath. Gen. Hist. vi. 38. no. 49 (1823).

Gobe-mouche noir et jaune de Ceilan, St. Croix, Dict. Sc. Nat. xxxiii. 85 (1824).

Brachypus gularis, Gould, P. Z. S. 1835, p. 186.

Ibis, 1866, p. 322. *Parus monachus*, Gray, Gen. of Birds, Sup. App. 306. no. 192, App. 39. no. 140 (1849).

Iora nigricapilla, Drapiez, Dict. Class. Sc. Nat. vi. 170 (1840).

Rubigula aberrans, Blyth, J. A. S. B. 1846, p. 287.

Sylvia atricapilla, Drapiez, apud Blyth, Cat. Mus. A. S. B. xxiii. in not. (1849).

Pycnonotus atricapillus, Blyth, Cat. Mus. A. S. B. 211. no. 1276; Layard, Ann. N. H. (1854) xiii. p. 125. no. 119; Sundev. K. Sv. Vet.-Ak. Hand. 1857, p. 40. no. 140.

Parisoma monacus, Bp. Consp. 259. no. 3 (1850).

Pycnonotus nigricapillus, Drapiez, apud Kelaart, Prod. Zey. 112, 123 (1852).

Rubigula gularis, Gould, apud Kelaart, *l. c.*

Meropixus atricapillus, Bp. Notes Ornith. p. 40, in not. (1854).

All the specimens of this bird sent to me had been ascertained by dissection to be those of females; the livery of the male, therefore, still remains a matter of conjecture. As we have seen, Mr. Blyth's first impression was that the state of plumage I have described was that of the female of *Brachypus rubineus*, Jerd., from Malabar. He eventually changed his opinion, but upon what grounds he has not stated. But while feeling confident that this Ceylon bird is not the female of *B. rubineus*, it is just possible that the males may wear a different livery. The form attributed by Le Vaillant to the female, and figured by him as such, may have been that of a young bird or of a distinct species, or, not improbably, it may have been invented for the occasion; for my specimens prove that authenticated females wear the dress which Le Vaillant has figured as that of the male. The female of *B. rubineus*, Jerd., has not been described by any of the Indian ornithologists; neither has the female of *Turdus dispar*, Horsf., been absolutely recognized, for Temminck says that the individuals sent to Leyden as the females of that species may only have been males in young plumage. The description given of them by him leads me to the same conclusion. If we judge by analogy, we have no reason to anticipate any difference of plumage in the two sexes of any member of the *Pycnonotinæ*.

M. melanictera appears to me to belong to the natural genus *Rubigula*, founded by Mr. Blyth in 1845 (J. A. S. B. p. 576) for the reception of *B. rubineus*, Jerd., and coequal with *Brachypus*, Sw., of 1831, founded upon the *T. dispar*, Horsf. Swainson's genus, having been previously employed, must fall; and although Cabanis's term *Sphagias*, coined six years later, may be more appropriate, the stern law of priority obliges us to discard it, as well as, for the same reason, that of *Meropixus*, Bp., published in 1854, and formed for the reception of our Ceylon bird, *M. melanictera.*

Ibis, 1866, p. 323.

The following species appear to me to come within the limits of *Rubigula*:—

1. *Brachypus rubineus*, Jerd. Ill. Ind. Orn. pl. 37 (1846).
2. *Turdus dispar*, Horsf. Linn. Tr. xiii. p. 150 (1820).
3. *Vanga flaviventris*, Tick. J. A. S. B. ii. 583 (1833).
4. *Muscicapa melanictera*, Gm. *l. c.* (1788).

Lanius melanocephalus, Gm. (*Turdus atriceps*, Temm. Pl. Col. 147, type of *Brachypodius*, Blyth, 1845), is very closely allied, but differs in having the tail rounded instead of subquadrate; and near it must probably be placed *Ixus chalcocephalus*, Temm., Pl. Col. 453. fig. 1, while *Ixus squamatus*, Temm., fig. 2, may perhaps form a fifth additional species of *Rubigula.*

Letter on Brachypus gularis, *Gould*, from Viscount WALDEN, F.L.S., F.Z.S., &c., *to the* EDITOR *of* 'THE IBIS.'

Ibis, 1866, p. 423.

Chislehurst, August 1866.

SIR,—Since the publication of my remarks "On the *Muscicapa melanictera* of Gmelin" (Ibis, 1866, pp. 316–323)*, I have been favoured by Mr. Gould with a view of what he assures me is the type-specimen of his *Brachypus gularis.* It is undoubtedly an example of the species described under the name of *B. rubineus* by Dr. Jerdon; and as Mr. Gould's appellation possesses a priority of several years, Dr Jerdon's designation must be superseded by it. *B. gularis*, Gould, must also cease to be regarded as a synonym of *Ægithina atricapilla*, Vieillot (*Muscicapa melanictera*, Gmelin); and I regret that, being misled by the short diagnosis of *B. gularis* given by Mr. Gould (P. Z. S. 1835, p. 186), accidentally omitting as it does one of the most essential characteristics of the bird, I fell into the error of so regarding it—an error, however, I shared in common with Professor Sundevall and other ornithologists.

Ibis, 1866, p. 424.

I have the honour, &c.,
WALDEN.

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* [*Anteà*, pp. 33–37.—ED.]

1867.

On the Rufous-tailed Shrikes. By Viscount WALDEN, F.Z.S.

Ibis, 1867, p. 211.

[From 'The Ibis,' 1867, plates v. & vi. *in orig.*]

I PROPOSE to apply the sectional designation above given to a small group of the genus *Lanius*, which appears to be restricted to a part of Southern Africa, to the continent of Asia, and to some of its islands. The members of this group are characterized by the males being clothed in a more or less rufous-coloured plumage, by the tail being invariably rufous, and by the wings being without any white *speculum* on the primaries. In general terms they may be said to form a group in which the males adopt a style of plumage similar to that which we find on the female of *L. collurio*, Linn., and *L. bucephalus*, T. & Sch. Their relationship, perhaps hereditary, to *L. collurio*, through the female line, if I may so speak, displays itself most prominently in the rufous-brown male of *L. cristatus*, Linn. The descent from this species, through the female line, is again exhibited in the rufous-grey males of *L. arenarius*, Blyth, and *L. lucionensis*, Linn. In *L. superciliosus*, Lath., and *L. phœnicurus*, Pall., apud Schrenck, we find the darker rufous of *L. collurio* ♀ developed into a bright rufous. On the other hand, in *L. magnirostris*, Less., the influence of *L. collurio* ♂ is to be found prevailing in the ashy head of that species; while in the rufous-coloured *L. isabellinus*, H. & E., the white alar bar proclaims the affinity of the group, by another character, to the Grey Shrikes. Regarding as I do the affinities of colour which link the members of this section together as merely signs of blood relationship, unaccompanied by any very marked peculiarities of structure, I prefer retaining them under the old generic title of *Lanius* to adopting that of *Otomela*, Bp. (Rev. de Zool. 1853), founded by the Prince for this section, without publishing its characters.

Ibis, 1867, p. 212. The species of the group are in great confusion; and it is in the hope of introducing a little order among them that I venture upon this attempt at a monograph. It will, I fear, be found far from complete; but in the present backward state of our knowledge of Eastern ornithology, more especially of the geographical areas, limits of migration, and the sexual, seasonal, and adolescent phases of the plumage of many Asiatic birds, it is frequently impossible to arrive at final conclusions.

1. LANIUS CRISTATUS, Linn., S. N. 1766, i. p. 134. no. 3. Gm., S. N. 1788, i. p. 298. no. 3. Lath., Ind. Orn. i. p. 72. no. 17. Jerd., Birds Ind. i. p. 406. no. 261 (ex India); Jerd., Illust. Ind. Orn. part 2 (ex Ind. merid.). Beavan, Ibis, 1865, p. 418. no. 261 (ex Maunbhoom).

Lanius fulvus, cristatus, Edw., Nat. Hist. Birds, ii. p. 125. no. 54 (ex Bengal).
Crested Red or Russet Butcher-bird, Edw., *l. c.* p. 54. pl. 54.
Lanius bengalensis rufus, Briss., Orn. ii. p. 173. no. 13 (1760).
Crested Red Shrike, Lath., Syn. i. p. 170. no. 18.
Woodchat Shrike, var. *A*, in part. Lath., G. H. ii. p. 16. no. 7 (ex Calcutta).
Rufous-tailed Shrike, Lath., *l. c.* p. 17. no. 9 (ex Cawnpore).
Supercilious Shrike, var. *A*, Lath., *l. c.* p. 36. no. 34 (ex India).

Enneoctonus cristatus (Linn.), Bp., Consp. i. p. 362. no. 5 (ex As. cent. & Bengal). Horsf. & Moore, Cat. E. I. Mus. i. p. 167. no. 218 (ex Nepaul & Tenasserim). Cab., Mus. Hein. Th. i. p. 72.

Enneoctonus lucionensis (Linn.), G. R. Gray, Gen. Birds, i. p. 291. no. 4, iii. App. p. 42. no. 54. Swinh., Ibis, vi. p. 420 (1864) (ex Ceylon).

Lanius phœnicurus, Pall. ♂ (*hiemalis*?), ♀, Sundev., Birds of Calc. A. N. H. xviii. p. 169 (1846) (ex Calcutta). Blyth, J. A. S. B. xv. p. 303 (1846) (ex Calcutta).

Lanius melanotis, Cuv. Mus. Paris, *ptm.* Puch., Arch. du Mus. vii. p. 424. Val., Dict. Sc. N. xl. p. 227 (1826) (ex Pondicherry).

Lanius superciliosus, Lath., Blyth, Cat. Mus. Calc. p. 152. no. 874, var. *cristatus* (ex Bengal & Burmah). Jerd., 2nd Suppl. Cat. no. 51 *bis* (ex Ind. merid.). Layard, A. N. H. 2nd series, xiii. p. 130. no. 143 (1854) (ex Ceylon). Tennant, N. H. of Ceylon, p. 266. Ibis, 1867, p. 213.

Lanius ferrugiceps, Hodgs., Ind. Rev. 1857, p. 446. sp. 3 (ex Nepaul).

Otomela cristata (Linn.), Bp., Rev. de Zool. 1853, p. 437. no. 26 (ex As. cent. & Bengal).

Notwithstanding the inappropriate title given by Linnæus on the faith of Edwards's plate and description, there can be no doubt that the common "Brown Shrike" of India is the species for which the designation *L. cristatus* was intended. Buffon (H. N. Ois. i. p. 306) observes that the disposition of the occipital feathers which led Edwards to regard the bird as crested was purely accidental; and he points out that the author of the 'Gleanings' made a similar mistake in his description of *Thamnophilus doliatus* (Linn.). Yet in 1853 we find Prince Bonaparte (*l. c.*) continuing the error by describing the Bengal Shrike as subcrested. Edwards's type was sent from Bengal. Specimens which I have compared from Moulmein, Nipaul, Maunbhoom, Southern India, the Deccan, Ceylon, Malabar, Assam, and Bootan do not exhibit any distinctive characters. Mr. Blyth refers (*l. c.*) to a Ceylon variety as being "very grey, no rufous on the crown, &c." But his specimens may have been birds in seasonal plumage, or perhaps females. Mr. Layard, in his 'Ornithology of Ceylon' (*l. c.*), regarded it as "a variety, but not sufficiently distinct to constitute a species, being simply paler and wanting the rufous crown of the Indian bird." Mr. Layard identified the Ceylon form with *L. superciliosus*, Lath.; and *L. cristatus*, Linn., of India is decidedly much less rufous than the Malay species. But none of the Ceylon specimens I have examined are to be distinguished from the continental *L. cristatus*, Linn. Yet Dr. Jerdon (*l. c.*) seems likewise to consider that Ceylon possesses a race differing somewhat from the ordinary Indian form. It is, however, very unlikely that a migratory Ceylon form can be distinct from a migratory Indian species and still never be found in India. If the Ceylon race is, in however small a degree, distinct from that of India, examples of it, at two periods of each year, must occur in India.

The Brown Shrike does not seem to extend further south than Tenasserim on the eastern side of continental India, nor does it appear to cross the Sutlej and Indus on the north-western frontier. According to most of the Indian ornithologists it remains in the plains of India during the cold weather only. Ibis, 1867, p. 214. Its breeding-home has not as yet been made known. The nests and eggs found by Colonel Tickell (J. A. S. B. 1848, xvii. p. 302. no. 31) in the plains of India during the month of June are said by Dr. Jerdon (*l. c.*) to have been those of a Bulbul. Dr. F. Buchanan Hamilton, however, distinctly states, in his MS. notes (H. & M., Cat. E. I. Mus. i. p. 168. no. 218), "this Shrike builds its nests in trees and bushes." Captain Beavan (*l. c.*)

informs us that it "migrates (from Central India) to the neighbourhood of Barrackpore during the cold weather." He procured his first specimen there on the 28th September. He adds that it is not common in Maunbhoom, Central India. Mr. Hodgson (*l. c.*) merely says that it is confined to the lower regions of Nipaul, but neither alludes to its nesting nor its migrations. That some individuals remain in the plains throughout the year appears from the statement of Mr. Blyth (*l. c.*), that "a few are found near Calcutta at all seasons." Dr. Jerdon tells us that "it disappears from the south of India in the hot season and rains," but omits to state where to. Mr. Layard also is silent on the point. Does it, then, cross the vast ranges of the Himalaya in its northern migration? Or does it not rather find on the southern slopes and in the valleys of those mountains all the conditions suitable for nesting?*

Dimensions.

	Long. Rostr.†	Al.	Caud.	Tars.
♂ ex Bengal . . .	·43	3·87	3·81	·87
♂ ,, Moulmein . .	. .	. .	. .	. .
♂ ,, Malabar. . .	. .	. .	. .	1
♀ ,, —— . . .	. .	. .	. .	·87
♂ ,, Ceylon . . .	. .	. .	4	. .
♂ ,, —— . . .	. .	. .	3·87	. .

Ibis, 1867, p. 215. This species has been confounded with one or other of the three following birds.

2. Lanius lucionensis, Linn., S. N. ed. xii. (1766) i. p. 135. no. 10. Briss., Orn. 1760, ii. p. 169. no. 11, pl. xviii. fig. 1 (ex Lucon). Gm., S. N. ed. xiii. (1788) i. p. 299. no. 10. Lath., Syn. i. p. 172. no. 21; Ind. Orn. i. p. 67. no. 5; G. H. ii. p. 55. no. 57. Swinh., Ibis, 1860, p. 59. no. 70; Ibis, 1861, p. 43. no. 68, p. 255. no. 7, and p. 340. no. 47; Ibis, 1863, p. 272. no. 31. Von Martens, J. f. O. 1866, p. 12. no. 46.

Lanius phœnicurus, Gm., v. Pelzeln, Reise der Novara, Zool. Th. i. p. 84 (ex China, Amoy).

Otomela lucionensis (Linn.), Bp., Rev. de Zool. 1853, p. 437. no. 29.

Brisson described this species from specimens of what seem to have been the female, brought by Poivre from the island of Luzon; and Linnæus adopted his designation. It has since, by some authors, been regarded as a local variety of *L. cristatus*, Linn. Yet, on comparing Indian with Philippine and Chinese examples, they are found to differ in many respects, more especially in the almost entire absence of rufous, in the cinereous colouring of the head, back of neck, and back, and in the much shorter tail, combined with an almost equal wing. It seems to wear the grey livery at all seasons; and no difference of sexual garb has been recorded. It migates to North China during the spring, and returns south to the Philippines at the close of summer, many in their passage resting in Formosa, and some, according to Mr. Swinhoe's latest observations (*l. c.*), passing the winter in that island. Mr. Swinhoe says that it has a sweet song, and he mentions that it is a common spring and autumn visitant at Amoy. He also observed it passing over at Hong Kong in the spring, and found it at Talien Bay, North China, during the end of June, where it, however, became much scarcer towards the middle of July. Between Takoo and Pekin it was not observed during the months commencing with August and ending with December, which Mr. Swinhoe accounts for by the early period of its southern migration.

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* It is extremely doubtful whether any Passerine bird which frequents the plains of India during the cooler months crosses to the north of the snowy ranges of the Himalaya after quitting the plains to escape the rainy season or the intense heat of summer. I am not aware that one of the Indian Passerine species which have recently been identified with Pallas's types have ever been compared with authentic Siberian specimens.

† The bill is measured from the nostril to the tip, and its dimensions, with those of the other parts, given in English inches and decimals.

On the authority of Mr. Blyth (Mouat, 'Andamans,' App. Zool. pp. 352, 360. no. 31, 1863), I, with some doubt, refer the species which inhabits the Andaman and Nicobar islands to the Philippine bird. But from not being acquainted with specimens from these localities, I am unable to confirm the accuracy of an identification which, if correct, is of considerable interest.

Ibis, 1867, p. 216.

Under the head of *L. phœnicurus*, Pall., it will be seen that there is some reason for believing that Pallas's bird belongs to this species.

Dimensions.

	Long. Rostr.	Al.	Caud.	Tars.
Ex China	·43	3·56	3·50	·87

3. LANIUS PHŒNICURUS, Pall., It. 1776, iii. p. 693. no. 6 (ex Dauria); Voy. (Paris) 1793, iv. p. 322, App. p. 665. no. 6; Zoogr. Ross.-As. 1831, i. p. 405. no. 59. Lath., Syn. i. p. 116. no. 14; Ind. Orn. i. 71. no. 14. Gm., S. N. ed. xiii. i. p. 309. no. 15. Schrenck, Am. Reise, 1860, i. p. 384. no. 109 (ex Amur, N. China). Middend., Sib. Reise, ii. Th. ii. p. 188. no. 107 (ex Udskoi Ostrog). Radde, Reise, S. v. O. Sib. 1863, ii. p. 277. no. 150. Sundev., Physio. Sälls. Tidsk. 1837–38, p. 64 (A. N. H. 1846, xviii. p. 169) ♂ "perfecte coloratus" (ex Mus. Stockh. patriæ incertæ?); K. S. Vet. Ak. Handl. 1840, p. 36. Blasius, Naumannia, 1858, p. 310. no. 8 (ex Heligoland); Ibis, 1862, p. 66. no. 8. Gätke, Naumannia, 1858, p. 425 (ex Heligoland).

Enneoctonus phœnicurus (Pall.), G. R. Gray, Gen. Bds. i. p. 291. no. 4. Bp., Consp. i. p. 362. no. 4. Cab., Mus. Hein. i. Th. p. 72. no. 414 (?) (ex Asia).

Otomela phœnicura (Gm. ex Pall.), Bp., Rev. de Zool. 1853, p. 436. sp. 25.

(Plate V. fig. 2, *in orig.*)

Pallas, who only obtained one specimen, and only observed the species on that occasion, procured his type early in the month of June, amongst the rocks of the mountain of Adon-Scholo, near to the river Onon in Dauria. Before he had accurately noted its characters the specimen decayed. We may infer from his account that the following characters given by him (*l. c.*) were drawn up from memory:—The body above rufescent-grey; a black band through the eyes; underneath yellowish-white; a long tail rounded at the end, the whole of which, with the rump, intensely rufous. Schrenck (*l. c.*) has given under Pallas's name an elaborate description of a Rufous-tailed Shrike, many specimens of which, male and female, he obtained at Udskoi-Ostrog, along the course of the Amoor river and in Northern China. These differ from the description given by Pallas by having the entire upper plumage of a rust-brown colour, and the forehead and

Ibis, 1867, p. 217.

superciliary streak pure white. The upper plumage of both sexes is described as alike, the females being chiefly distinguished from the males by having the white forehead and superciliary streak less strongly marked and less pure, by the ocular band being brown instead of black, and by the sides of the neck, the lower throat, the breast, and flanks being finely and darkly lineated, these parts in the male being immaculate. The discrepancy in the two descriptions raises the doubt whether the two authors refer to the same bird. Pallas's description applies with equal truth to *L. lucionensis*, Linn. The long tail and intensely rufous uropygium and tail are not sufficient characters to distinguish it; for, as regards the intensity of colour, specimens of the Philippine species in full breeding-plumage have yet to be procured and described. The rufescent-grey upper plumage is characteristic of *L. lucionensis*, Linn.; and we know that that species travels high into Northern China in the early spring to breed. Nor may we presume that Pallas's specimen was in a sexual or seasonal phase of plumage or in that of nonage; for Schrenck has told us that the upper plumage of the sexes does not differ, and he has further described the nestling bird as having the entire upper plumage of a rust-brown colour lineated across with black*. From Hakodadi, killed there in June, I have received a specimen (Pl. V. fig. 2, *in orig.*) which, in all respects, agrees with Schrenck's description of his Siberian and North China individuals, and which differs widely from Philippine and China examples of *L. lucionensis*, Linn. For the reasons above given, I entertain great doubts as to the identity of Schrenck's specimens with Pallas's species. Should they prove distinct, Schrenck's bird will require a new title. But before we can arrive at a conclusion, the exact limits of the Philippine bird's northern migration must be discovered, and individuals in full breeding-plumage will have to be obtained. Schrenck's species was obtained on the banks of the Schilka river, and also on the coast of the Sea of Okhotsk. Middendorff procured it only in the latter region, and states that it was the only species of the genus obtained by him. The bird he identified as *L. excubitor*, Linn., but of which he failed in getting a specimen, was probably *L. bucephalus*, T. & Sch. Radde, who, as well as Middendorff, gives no description of his specimens, found *L. phœnicurus*, Pall., not uncommon among the morasses along the banks and at the mouths of the larger rivers which fall into Lake Baikal. But the winter home of Schrenck's species has yet to be discovered. Mr. Swinhoe did not observe the bird in any of the parts of China visited by him. It would be of some assistance if a description of the specimen killed in Heligoland were to be published.

Ibis, 1867, p. 218.

The specific distinction between *L. phœnicurus*, Pall., and *L. collurio*, Linn. (on the hypothesis that he possessed specimens of Pallas's species), has been most conclusively demonstrated by Schrenck (*l. c.*). The specimen described by Sundevall (*l. c.*), preserved in the Stockholm Museum, must belong either to Schrenck's species, or to Malay *L. superciliosus*, Lath.

Dimensions.

	Long. Rostr.	Al.	Caud.	Tars.
Ex Hakodadi	·43	3·62	3·87	·87

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* It is to be regretted that, in his admirable article on *L. phœnicurus*, Schrenck has not commented on the discrepancies between his specimens and Pallas's description.

4. **Lanius superciliosus**, Lath., Ind. Orn. Supp. 1801, p. 20. no. 14; Gen. Hist. ii. p. 36. no. 34. Raffles, Mem., Cat. Zool. Sp. p. 658 (ex Sumatra). Sundev., K. S. Vet. Ak. Handl. 1857, pp. 31, 60. no. 66, 2. Blyth, Cat. Mus. Calc. p. 152. no. 874 (ex Malacca) (nec Licht., Doubl. 1823, p. 47. no. 509=*L. rutilans*, Temm., Man. iii. p. 601) (nec Swains., N. H. Bds. ii. 219=*C. erythronotus*, Vig., P. Z. S. 1831, p. 42). v. Pelzeln, Nov. Reise, Zool. Th. i. p. 84 (ex Malacca, at sea, near the Mariannes, lat. 17° 32′ N., and long. 138° 8′ E.).

Le Rousseau, Levaill., Ois. d'Afrique, ii. p. 60, pl. 66. fig. 2 (ex Java).

White-cheeked Shrike, Lath., (?) Gen. Hist. ii. p. 53. no. 53 (ex India). Ibis, 1867, p. 219.

Enneoctonus superciliosus (Lath.), G. R. Gray, Gen. Bds. i. p. 291. no. 6. Bp., Consp. i. p. 363. no. 8 (ex Java?). H. & M., Cat. i. App. 1. p. 394. no. 638 (ex Malacca, Pinang).

Otomela superciliosa (Lath.), Bp., Rev. de Zool. 1853, p. 437. no. 29 (ex Java?).

Two questions must be answered before the correct synonymy of this species can be determined. Does it occur in Java? Is it the same, or does it differ from *L. phœnicurus*, Pall. apud Schrenck? Levaillant (*l. c.*) first described and figured the bird, said by him to have come from Java, on which Latham founded his species. Levaillant's authority for its *habitat* is, of course, untrustworthy; and no subsequent author who adopts it supports Levaillant by collateral evidence. The species is not included by Horsfield in his "Catalogue of the Birds of Java" (Linn. Tr. xiii.). No specimens from that island are contained in the British or East-India Museums. Mr. Blyth, intimately acquainted with Eastern ornithology, informs me that he never met with a Javan specimen; and Mr. Wallace did not observe it in Java. *L. bentet*, Horsf., is the only Javan Shrike known to these eminent naturalists; and no other Javan species is within my own limited knowledge. Yet if such a bird does inhabit Java, it will have to be regarded as *L. superciliosus*, Lath., *verus*. In the Malay Peninsula a species, very common in collections, exists, answering in all respects to Levaillant's account of *Le Rousseau*; and for the present it will be convenient to regard it as having supplied Levaillant with the subject of his plate and description. Its occurrence in Sumatra, not in itself improbable, rests upon the sole authority of Sir S. Raffles.

On the supposition that my Hakodadi specimen is *L. phœnicurus*, Pall. ap. Schrenck, it is not easy to discriminate the characters which separate it from Malay *L. superciliosus*. A somewhat shorter wing, a brown, more dully-coloured back, and a narrower white frontal band constitute the only perceptible discrepancies of the Malay specimens I have had opportunities of examining. Otherwise the two are exactly similar, the rufous of the head and upper tail-coverts being quite as intense, and the white of the under surface as pure and as extended. On the other hand, the female or young of the Malay species is almost pure cinereous on the upper surface. Bonaparte (*l. c.*) uses the expression "*rufo-cinerea*," but I have seen Malay specimens which are cinereous without a tinge of rufous. In the next place, all our information leads to the conclusion that the Malay bird does not migrate to the north. Further investigation will be necessary to enable us to decide whether it be the same as the Japan bird. Ibis, 1867, p. 220.

Herr v. Pelzeln (*l. c.*) mentions that a specimen of this species was obtained by the 'Novara' expedition; it flew on board the frigate while off the Marianne Islands. Is it the same as the Malayan bird?

Lanius colluroides, Less. (Bél. Voy. 1834, p. 250), ex Pegu, hitherto regarded by Mr. Blyth and other writers as a synonym of either this species or of *L. cristatus*, Linn., is, as was suspected by Prince Bonaparte (Rev. Zool. 1853), equal to *L. hypoleucus*, Blyth (J. A. S. B. 1848, p. 249), ex Pegu. It is a well-marked distinct race of *L. vittatus*, Val. (Dict. Sc. Nat. 1826, xl. p. 227), described from specimens obtained at Pondicherry, and brought to France by Leschenault; for Valenciennes's description, as already shown by Prince Bonaparte (*l. c.*), distinctly applies to the common Bay-backed Shrike of India, very abundant on the Coromandel coast. Mr. Vigors's designation of *Collurio hardwickii* (P. Z. S. 1831, p. 42) must therefore be cancelled.

Dimensions.

	Long. Rostr.	Al.	Caud.	Tars.
Ex Malacca	·43	3·50	3·87	·87

5. Lanius magnirostris, Less., Bél. Voy. 1834, p. 251 (ex Les Indes); Compl. de Buff. ii. p. 415.

Lanius strigatus, Eyton, P. Z. S. 1839, p. 103 (ex Malay Penin.).

Lanius ferox, Drap., Dict. Sc. N. 1842, viii. p. 366 (ex Java?).

Enneoctonus crassirostris, Kuhl, Bp., Consp. 1850, i. p. 362. sp. 6 (ex Java?). (v. Hasselt), Cab., Mus. Hein. 1850–51, Th. i. p. 72. no. 415, sp. 4, ex Java (?).

Lanius crassirostris, Kuhl, v. Pelzeln, Nov. Reise, Zool. Th. p. 84 (ex Malacca).

Ibis. 1867, p. 221. *Otomela crassirostris* (Kuhl), Bp. Rev. de Zool. 1853, p. 437. sp. 31 (ex Java?).

Lanius tigrinus, Drap., Blyth, Cat. Mus. Calc. p. 152. no. 875 (Malacca) (nec Drap.).

(Plate VI. fig. 1, ♂, fig. 2, ♀, *in orig.*)

A very small species of Shrike, perhaps the smallest of the genus, with a stout, almost disproportionate bill, and with the upper plumage generally deep rufous-brown, verging on chocolate, much striated with fine dark lines, the crown of the head, in old males, cinereous, seems to be common in the Malay Peninsula and exists in Sumatra. It and assumed Javan individuals have been described as distinct by several authors, and under separate names; and in their turns these titles have been regarded by subsequent writers as synonyms of one another, as well as of others of the older species already noticed. It is a well-marked form, readily to be distinguished by its diminutive size, grey head in the male, and very thick bill; yet materials necessary for a permanent rectification of its synonymy are still wanting, and will remain incomplete until specimens of the form described as existing in Java are brought together and compared with those of Malacca and Sumatra. One, if not two, species, apparently nearly allied to the Malay form, have by different authors been described as inhabiting Java. And yet I can find no satisfactory evidence that a Shrike of that race actually inhabits the island at all. No Javan examples are preserved in the British or East-Indian Museums. Nor did Mr. Wallace meet with any such species in Java, although he procured several specimens in Sumatra. The localities given by Drapiez generally require collateral support; and the same may be said of those contained in the 'Museum Heineanum:' while in the 'Conspectus,' on the subject of localities, Bonaparte is singularly inaccurate. If a thick-billed rufous Shrike does occur in Java, it will still remain to be shown whether it be the same as, or specifically distinct from, the Malay bird. In the absence of Javan examples, and of any reliable evidence of their occurrence, I have brought all those titles which refer to alleged Javan specimens of the thick-billed form under Lesson's designation of *L. magnirostris*, which clearly refers to the Malay race, and has the right of priority. Ibis, 1867, p. 222. He has given a detailed description of the male and the female. If it be eventually shown that Java is inhabited by an allied form yet specifically distinct from the Malay type, it will have to take the title of *L. ferox*, Drap., and not that of *L. tigrinus* of the same author. *L. ferox*, Drap., is described (*l. c.*) as measuring seven inches in length, whereas *L. tigrinus*, Drap., usually regarded as a synonym of *L. magnirostris*, Less., is said by its author to measure ten inches and a half. Letting alone the fact that in the same article on the Shrikes Drapiez described these two birds as distinct species, the large dimensions of his *L. tigrinus* are sufficient to stamp the species as distinct from *L. ferox*. At the same time I am unable, from the description, to identify *L. tigrinus*; it is possibly a young *L. cristatus*, Linn., from the continent. Bonaparte (*l. c.*) makes *tigrinus* the male, and *ferox* the female. But the sexes in the Malay bird are of equal dimensions, and no true *Lanius* is known in which there is a difference of three and a half inches between the sexes. The description of *L. ferox*, taken along with its small size, clearly refers to the female or young male of the Malay bird, or, if it does there occur, to its Java representative.

Lanius crassirostris, Kuhl, is introduced, without description, in the 'Conspectus' as a distinct species from Java. Three years later the Prince fully described the male and female in his 'Monographie des Laniens;' and the specific characters there given apply in every respect to the Malay bird. Moreover, although permitting Kuhl's manuscript title to be retained, the Prince identified his species with *L. magnirostris*, Less., *L. ferox* and *L. tigrinus*, Drap., *L. strigatus*, Eyton, and *L. crassirostris*, v. Hasselt, all titles possessing priority over the designation adopted by the Prince*. Ibis, 1867, p. 223. The *L. crassirostris* (v. Hasselt) of Dr. Cabanis, by the description given in the footnote (*l. c.*), is evidently either the Malay species or else the possible but improbable Javan form.

Dimensions.

	Alt. Rostr.	Long. Rostr.	Al.	Caud.	Tars.
Ex Malacca . . .	·37	·50	3·25	3	·75
Ex Malacca . . .	·31	·50	3·25	3·12	·75
Ex Sumatra . . .	·37	·43	3·25	3·25	·81

6. LANIUS SCHWANERI, Bp., Consp. 1850, i. p. 363. sp. 7 (ex Borneo). V. Pelzeln, Nov. Reise, Zool. Th. i. p. 48 (ex Banjermassing).

Otomela schwaneri, Bp., Rev. de Zool. 1853, p. 437. sp. 30.

Described from specimens in the Leyden Museum as resembling *L. superciliosus*, Lath., but as being scarcely so rufous, and as wanting the white superciliary streak. I am unacquainted with the species. A specimen of a female was obtained by the 'Novara' expedition, which Von

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* The carelessness of this great ornithologist is curiously illustrated in his Monograph by the notes of exclamation he inserts after quoting Dr. Cabanis. In the 'Museum Heineanum' that author included the rufous-tailed Shrikes in Boie's genus *Enneoctonus*. This excites the Prince's astonishment, and he gives expression to his amazement by his usual notes of exclamation. Yet in the 'Conspectus,' published at about the same time, it will be seen that the Prince himself included all the rufous Shrikes under *Enneoctonus*.

Pelzeln has identified with the above species, but which possessed a narrow superciliary streak. In badly prepared skins the superciliary stripe is often to be found obliterated; and this was probably the case in the Prince's type specimen.

7. Lanius arenarius, Blyth, J. A. S. B. 1846, xv. p. 304. Jerd., Bds. Ind. i. p. 407. no. 262. Strickl., P. Z. S. 1850, p. 207. no. 46.

Lanius superciliosus, Lath., Scinde variety, Blyth, Cat. Calc. Mus. p. 152. no. 874.

Otomela arenaria (Blyth), Bp., Rev. Zool. 1853, p. 437. no. 27.

Enneoctonus arenarius, Blyth, H. & M., Cat. i. App. i. p. 394. no. 639 (ex Afghanistan).

This species was described by its author from specimens obtained by Captain Boys "in the country lying between Scinde and Ferozepore." I am only acquainted with specimens procured in various parts of South-western Afghanistan, and which agree perfectly with Mr. Blyth's description. If they prove identical, of which there can be little doubt, I am unable to account for Mr. Blyth's original remark, that "it can scarcely be admitted as a separate species" (*l. c.*); for, apart from its totally distinct colouring, its caudal structure is alone sufficient to separate it from *L. cristatus*, Linn. Though a smaller bird, its rectrices are much broader than in the Bengal bird, and the tail is less graduated.

Ibis, 1867, p. 224.

In the specimen before me the centre pair of rectrices, at about one-third of their length from the end, display a well-marked irregular light-coloured transverse band—a good distinctive character if found to be constant in all examples. Dr. Jerdon cannot have seen specimens of this form, or he would not have included it among his list (*l. c.* iii. App. p. 875) of the "somewhat doubtful" species.

Dimensions.

	Long. Rostr.	Al.	Caud.	Tars.
Ex Bagh, S.W. Afghanistan . . .	·40	3·75	3·62	·93

8. Lanius anderssoni (Strickl.).

Enneoctonus anderssoni, Strickl., Contrib. to Orn. 1852, p. 145. no. 18 (ex Damaraland); Mem. ii. p. 336. no. 18. Bp., Rev. Zool. 1853, v. p. 437, note.

Founded on a specimen obtained by Mr. Andersson in the Damara country of Southern Africa. Strickland mentions that it is allied to *L. melanotis*, Val. (*L. cristatus* of this paper), but that it "differs in the ferruginous ear-coverts, longer wing, shorter tail, &c." A peculiar character seems also to be the absence of a black or brown ocular band. A white alar bar is not mentioned; and as so important a character is not likely to have escaped the notice of so accurate an observer as the describer, I include this species in this section. Yet it may eventually prove to have been the female or young of a form belonging to another group of the genus.

This completes the number of Rufous-tailed Shrikes without an alar speculum known to me.

Lanius isabellinus, H. & E. (Symb. Phys. i. fol. *e*, note), obtained in Arabia*, is an interesting transitional link, being a Rufous-tailed Shrike but possessing a white alar bar.

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* The late Mr. Strickland (P. Z. S. 1850, p. 217. no. 46) records this species from Kordofan.

Ibis, 1867, p. 225. A species combining these two characters was obtained at Hyderabad, in Scinde, by the late Dr. Gould, of which a specimen, in bad order, is now preserved in the East-India Museum (Plate V. fig. 1, *in orig.*). Not being acquainted with typical Arabian examples, I cannot pronounce decidedly on the identity of this Scinde specimem and Ehrenberg's species. It will be seen, by the following description, that it differs from Ehrenberg's account of *L. isabellinus* by possessing a rufous head and rufous-brown dorsal plumage. But I suspect that Ehrenberg's type was either a female, a young bird, or else a male in seasonal plumage; for the British Museum contains a specimen from Bagdad which is palpably of the same species as this Scinde specimen, but which answers perfectly to Ehrenberg's description of *L. isabellinus*; that is, the upper plumage is pale fulvo-cinereous. We have no means at present of deciding what state of the bird this cinereous phase denotes; but I incline to the opinion that it belongs to the female sex. As this Hyderabad specimen constitutes an additional species to the fauna of the Indian region comprehended within the geographical limits of Dr. Jerdon's work, I append a detailed description:—

Entire upper surface of head and uropygium rufous-brown, as in brightly plumaged specimens of *L. cristatus*, Linn. Intermediate dorsal region, scapulars, and all the wing-feathers brown, obscurely tinged with rufous, the secondaries, wing-coverts, and scapularies being broadly edged with ruddy fulvous. Upper tail-coverts and the rectrices bright pure rufous, as in *Ruticilla phœnicura*, Linn.; the under surface of the rectrices somewhat paler, but pure and uniform in tint. Under wing-coverts and entire under surface, so far as the state of the specimen permits description, pale creamy or yellowish-white. Under tail-coverts, which are lengthened, nearly pure white. Flank-feathers tinged with a very pale shade of pure rufous. A narrow fulvous line at the base of the maxilla passing back, over, and behind the eye. A broad black band, passing through the eye, includes the lores and the ear-coverts. A white alar bar is formed by a white band commencing on the outer web of the 3rd primary and passing through both webs of each succeeding quill to the 9th, in which and the 10th the white forms only a spot on the outer web. Under surface of quills pale brown, their inner webs being margined with light fulvous. Ibis, 1867, p. 226. 1st primary very short, the 2nd equal to the 5th, and a little shorter than the 3rd and 4th, which are coequal and longest; the 5th but a trifle shorter than the 3rd and 4th, and longer than the 2nd. The tail is moderate, graduated; the wings are lengthened; the bill moderate; the under tail-coverts extend to fully half the length of the tail; the tarsus and feet are powerful. Arabian specimens will have to be compared; but I have little doubt that this Scinde individual will prove to be a mature male of *L. isabellinus*, H. & E.

Dimensions.

	Long. Rostr.	Al.	Caud.	Tars.
Ex Scinde	·43	3·87	3·6	2·87

In a note (Rev. de Zool. 1853, p. 437), while failing to identify it, and without mentioning its origin, Bonaparte has described a rufous-tailed Shrike under the title of *Lanius jeracopis*, de Filippi. I have been unable to trace the species, but the characters given are those we find in young males of *L. superciliosus*, Lath., ex Malacca.

The following table represents the geographical limits of each species of the group as far as is at present known:—

1. *Lanius cristatus*, Linn. Plains of India, Ceylon, Nipaul, Assam, Bootan, Arakan, Tenasserim.
2. *L. lucionensis*, Linn. Luzon, Formosa, China, Andamans, Nicobars.
3. *L. phœnicurus*, Pall. ap. Schrenck. Amur, North China, North-east Siberia, Japan.
4. *L. superciliosus*, Lath. Malay Peninsula, Sumatra.
5. *L. magnirostris*, Less. Malay Peninsula, Sumatra.
6. *L. schwaneri*, Bp. Borneo.
7. *L. arenarius*, Blyth. Punjab, Upper Scinde, South-west Afghanistan.
8. *L. anderssoni* (Strickl.). Damaraland.

Ibis, 1867, p. 381.

Letter on Garrulax leucogaster, *Walden, from* Viscount WALDEN, F.L.S., F.Z.S., &c., *to the* EDITOR *of* 'THE IBIS.'

Chislehurst, Kent,
May 12, 1867.

SIR,—In my "Notes on Birds collected in Tenasserim and the Andaman Islands" (P. Z. S. 1866, pp. 537–556)[*], I pointed out certain characters in a specimen of a *Garrulax*, from Siam, which appeared sufficiently important to warrant me in regarding it as belonging to an undescribed species. Since then I have had the advantage of perusing M. Pucheran's admirable essay on the dentirostral types contained in the Paris Museum. When reading the detailed description (Arch. du Mus. vii. p. 376. no. 37) given by that eminent zoologist of *Turdus diardi*, Lesson (Traité, p. 408), from Cochin China, I at once recognized the characters which led me to separate *G. leucogaster*, nob., from *G. leucolophus* (Hardw.) and *G. belangeri*, Less. M. Pucheran writes, "la tête est blanche, ainsi que le thorax et *l'abdomen* dans sa partie médiane" et "ses côtés de l'abdomen et les plumes couvrant le haut des tarses sont brun roux." In my description of the Siamese specimen (*l. c.* p. 548. no. 20)[†], the words used are, "the entire under surface is
Ibis, 1867, p. 382. white, the thigh covers and flanks only being rufous." M. Pucheran ends his article thus—"Je ne sache pas que cette espèce ait été décrite depuis l'époque à laquelle M. Lesson l'a dénominée pour la première fois; mais il me semble qu'elle peut parfaitement s'isoler des espèces connues de *Garrulax* par le blanc de la partie médiane de son abdomen."

Describing as new a previously described species is justly considered inexcusable. Yet, in this instance, if I have done so, this much may, I think, be urged in palliation: Lesson, who classed it as a *Turdus*, merely says "tête et *cou* blancs." In the next place, when, three years later (Bél. Voy. Zool. 1834, p. 258), he founded his genus *Garrulax*, enumerated the species he classed in it, and described the closely allied form, *G. belangeri*, he omitted all mention of *T. diardi*; nor is this species to be found under *Garrulax* in Lesson's 'Compléments de Buffon,' published in 1840.

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[*] [*Anteà*, pp. 15–32.—ED.]

[†] [*Anteà*, p. 26.—ED.]

Without actual comparison of the types I cannot positively affirm that the two belong to the same species. M. Pucheran does not mention the existence of a crest; and this omission, taken together with the difference of origin, makes it possible that the Cochin-Chinese species does differ from the one inhabiting Siam.

I am, yours obdt.,
WALDEN.

Letter on Loriculus edwardsi, *Blyth, from* Viscount WALDEN, F.L.S., F.Z.S. &c., *to the* EDITOR *of* 'THE IBIS.'

Ibis, 1867, p. 467.

Chislehurst, Kent,
August 25, 1867.

SIR,—In the last number of 'The Ibis' for this year (p. 295), I observe that Mr. Blyth has given a new title, *Loriculus edwardsi*, to the common little Parrakeet of Ceylon, hitherto known as *Psittacus indicus*, Gm., or as *P. asiaticus*, Lath. With due deference to Mr. Blyth's high authority on ornithological subjects (and no one more fully respects it than I do), I regret that I cannot concur in the reasons given by that gentleman for rejecting, in this case, the older titles and adding a new one to our already over-loaded list of synonyms.

Edwards first figured and described the Ceylon species (i. pl. 6), from a specimen in spirits "brought from some Dutch settlement in the East Indies." From his descriptions and plate, which Brisson notices as "une figure exacte," it is evident that the Ceylon bird and no other served as the subject. Brisson, describing from the plate, but without having seen the species (for the two asterisks at the commencement of his diagnosis are wanting), founded on it his *Psittacula indica*. He quotes no other authors. Linnæus (Syst. Nat. ed. xii.) omitted all notice of Brisson's description, and, under *P. galgulus*, merely refers the reader to Edwards's plate ("*Conf. Edw. t.* 6"), *P. galgulus* having been solely based by him on Edwards's plate 263, fig. 1. Latham (Syn. i. p. 311), under the title of "red and green Indian Parrot," inserts the species on the authority of Brisson and Edwards; while Gmelin (Syst. Nat. i. p. 349), quoting those three authors only, gave the species the title of *P. indicus*. Latham, a little later, 1790 (Ind. Orn. i. p. 130), while quoting Gmelin, Brisson, Edwards, and himself, entitled it *P. asiaticus*. Both Gmelin and Latham therefore gave their names to Edwards's species, which was undoubtedly from Ceylon. Mr. Blyth seems fully to admit that Edwards's plate 6 refers to the Ceylon bird, and yet he says "this race is wholly peculiar to Ceylon, and therefore is neither the *Psittacus indicus* of Gmelin, nor *P. asiaticus* of Latham." Now as this form is not found in India proper, we may follow Messrs. Horsfield and Moore (Cat. E. Ind. Mus. ii. p. 628) and suppress Gmelin's title, otherwise the oldest; but what reason is there for not adopting the next in succession, *P. asiaticus*, Latham? Ibis, 1867, p. 468.

With reference to the same paper you will perhaps permit me to add that *Lanius lucionensis* is a Linnæan title originally given to a Philippine race which is totally distinct from that of Ceylon, as I have already endeavoured to show in our Journal (*antea*, pp. 212 *et seqq.*)*;

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* [*Anteà*, p. 40.—ED.]

that *Dicrurus edoliiformis*, Blyth, is *D. lophorhinus*, Vieill. (N. Dict. d'Hist. Nat. 752), founded on *le Drongup* of Levaillant (Ois. d'Afr. iv. pl. 173), the type of which is still preserved at Leyden, where it was shown me by my amiable and most learned friend Professor Schlegel; that *D. leucopygialis*, Blyth, is *Oriolus furcatus*, Gm. (Syst. Nat. i. p. 395), founded on Brisson's *Icterus cauda bifida* (Orn. ii. p. 105), which in its turn was founded on Seba's "*Turdus niger mexicanus*" (Locupl. Rerum Nat. Thes. i. p. 102, pl. 65. fig. 2), and referred by Wagler (Syst. Av. fol. 23. p. 12) to *D cærulescens* (Linn.); and that *Temenuchus albofrontatus* (Layard), 1854, must give way to "*Pastor senex*, Temm. Mus. Lugd.," Bp. (Consp. i. p. 419). Examples in the *senex*-state of plumage, that is with the entire head grey, appear to be rare; for in a considerable series of Ceylon specimens of the species I have only met with one as described by Bonaparte. Its Bengal origin, as given in the 'Conspectus,' is of course erroneous.

I have, &c.,
WALDEN.

1868.

Ibis, 1868, p. 68.

Note on Lanius melanthes, *Swinhoe, and on* Lanius cephalomelas, *Bp.*

By Viscount WALDEN, F.Z.S. [From 'The Ibis,' 1868.]

Ibis, 1868, p. 69.

THE rediscovery in China of the dark and peculiarly coloured Shrike to which Mr. Swinhoe (Ibis, 1867, p. 405) has given the title of *Lanius melanthes*, is of much value and interest. It sets at rest the doubts hitherto entertained as to the specific validity, if not as to the existence even, of such a Shrike; and although I have not had an opportunity of seeing Mr. Swinhoe's specimen, he has so fully described it that I have no hesitation in referring it to the *Lanius fuscatus* of Lesson, who appears to have first discriminated this species, giving in 1831 (Traité d'Ornithologie, p. 373) the following short notice of it—"Pie-grièche enfumée, *Lanius fuscatus*. Plumage brun de suie enfumé,"—but without mentioning any locality for it.

In his "Monographie des Laniens" (Rev. et Mag. de Zool. 1863, p. 434, note) Bonaparte refers to Lesson's species in these words:—"Quid *Lanius fuscatus*, Lesson, Mus. Paris. *ex China*: luride fumigatus, alis caudaque brevioribus, sed rostro typico?"

Fortunately, the type-specimen came under the critical notice of M. Pucheran. In that author's admirable paper on the "Types Dentirostres" of the Paris Museum (Arch. du Mus. vii. p. 368, 1854–1855) we find these remarks:—"*Lanius fuscatus.* * * * Cet individu m'est indiqué comme originaire de Chine. Ses teintes sont bien noirâtres, surtout sur les côtés et en avant du cou. Il y a une teinte rousse en dessus, en dedans des tectrices alaires supérieures. Cet exemplaire est de grande taille comme le *Lanius shach*. Est-ce une variété mélanienne? Est-ce un individu vraiment enfumé? Ce sont des questions que l'avenir seul est appelé à résoudre." These questions Mr. Swinhoe has been able to answer. He does not regard it as a melanism, and it really seems to be a good species.

A specimen of this Shrike, preserved in the Leyden Museum, appears also to have attracted the attention of Dr. Hartlaub; for, in a paper entitled "Zwei unbeschriebene Vögel des Leydner Museums" (Journ. für Orn. 1855, pp. 361, 362), we find that eminent ornithologist, under the name of "*Lanius lugubris*, Temm.," describing another specimen of the same species in the following words:—"Supra obscure nigro-cinereus, tergo, uropygio et tectricibus caudæ superioribus nonnihil brunnescentibus; alis, cauda, fronte, superciliis et capitis lateribus nigris; remigibus, gula et jugulo obscure fuscis; subtus fusco-cinerascens; crisso et subcaudalibus brunnioribus; Ibis, 1868, p. 70. subalaribus nigris; rostro plumbeo-corneo; pedibus nigris. * * * China. Grosse typische Art." Furthur on, in the same volume (p. 426), in his 'Index' to Dr. Pucheran's series of papers on the types in the Paris Museum, Dr. Hartlaub alludes to Lesson's species in a way which seems indirectly to identify it with that of Temminck; for he says, "*Lanius fuscatus*, Less. p. 368.—Quid? China. (Bona species: Hartl. Mus. Lugd.)"†

This Shrike seems to be closely allied to *L. tephronotus* (Vigors, P. Z. S. 1831, p. 43).

Lanius cephalomelas‡, Bonaparte (Rev. et Mag. de Zool. 1853, p. 436), is another doubtful Shrike, which does not appear to have been satisfactorily identified. The Prince described it from Manilla specimens of Consul Lannoy, in the Brussels Museum, and of Kittlitz, in that of Frankfort. The diagnosis is thus given:—"Major: niger; subtus albus; dorso griseo, hinc inde albo, postice cum uropygio et hypochondriis pallidissime rufo: speculo alari remigibus interne ad basin, secundariis apice quoque, albis: cauda valde cuneata; rectricibus subtruncatis, prima et secunda latissime albo marginatis, tertia utrinque macula mediana marginali pogonii interni apiceque albis." It is impossible to read this description, coupled with the consideration of the Philippine origin of the types, without at once recognizing Sonnerat's "*Pie-grièche d'Antigue*" (Voy. à la Nouv. Guin. p. 114, pl. 70), to which Scopoli (Fl. et Faun. Insub. ii. p. 85, no. 13) in 1786 gave the name of *Lanius nasutus*, Sonnerat's specimen having a prolonged and malformed maxilla. The careless Italian author says "mandibula inferiore elongata incurva," notwithstanding Sonnerat's observation, "La partie supérieure en est très-longue, et sa courbure paroît si excessive, qu'on pourroit croire que c'est un défaut de conformation dans l'individu qui a servi pour la description." Gmelin in 1788 (Syst. Nat. i. p. 301, no. 29), upon the same plate founded his *L. antiguanus*. This black-headed Shrike is closely allied to, if not identical with, the Hindostan *L. nigriceps* (Frankl. P. Z. S. 1831, p. 117). Ibis, 1868, p. 71. Indeed Scopoli's and Gmelin's designations have usually been associated with Franklin's on the hypothesis that Sonnerat described and figured an Indian specimen; but Bonaparte's species seems to establish the existence of a Philippine black-headed Shrike; and until specimens from both localities are compared, it will be reasonable to presume that they belong to two distinct species.

† I have an impression, although I cannot refer to the passage in which he did so, that Bonaparte subsequently united the two species[1].

‡ [This word is printed *cephalomelus* in the passage cited, but of course by mistake.—ED. of 'Ibis.']

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[1] Comptes Rendus, 1856, vol. xlii. p. 767.—TWEEDDALE.

1869.

Ibis, 1869, p. 208. *Remarks on Dr. Stoliczka's "Ornithological Observations in the Sutlej Valley."* By ARTHUR, Viscount WALDEN, P.Z.S. &c. [From 'The Ibis,' 1869.]

IN the 'Journal of the Asiatic Society of Bengal' for 1868, a paper has been published, entitled "Ornithological Observations in the Sutlej Valley, N.W. Himalayas," which deserves the attention and the study of the philosophical ornithologist. The author, Dr. Stoliczka, is a gentleman whose name is well known as that of a distinguished palæontologist and geologist. And this, I believe, his first ornithological contribution possesses merits more than sufficient to entitle him to a high place among scientific ornithologists. The accession to our ranks of a recruit already so eminent in other branches of the natural sciences will be hailed with pleasure, and, by those who aim at higher objects than the mere priority of naming their species, with gratitude. The addition of another labourer in the but partially tilled field of Asiatic zoology will be welcome to the few, though happily increasing, workers in that much-neglected region of the earth's surface; while a perusal of Dr. Stoliczka's paper will show that it is possible for a naturalist primarily and chiefly occupied with a widely differing branch of research, to combine a record of practical zoological observations made in the field with an almost rigid accuracy of nomenclature.

An account of the collections made by Dr. Stoliczka, of which a translation appeared in this Journal for July last*, will already have enabled its readers to estimate his activity in the good cause. The collection there noticed was a general one of birds obtained in Tibet as well as in the Himalayas. The list I now propose noticing is confined to the species which inhabit a limited region of those mountains, the Sutlej Valley, and is therefore more local in its character. Ibis, 1869, p. 209. The species were collected or observed during the summer months, from May to October; while the authority for the winter residence of many of them rests chiefly on the evidence of the specimens obtained by *shikarees* employed to collect during the winter.

One hundred and thirty-nine genera, belonging to the *Insessores*, are enumerated as being represented in the Sutlej Valley. Of the remaining eighty-nine genera, after deducting fifty which are common to the temperate regions of the Old World and to the plains of Continental India (such as *Hirundo, Coracias, Merops, Picus, Corvus, Sitta, Lanius,* and so forth), forty-one of the genera (like *Palæornis, Pyctorhis, Tchitrea, Megalæma, Arachnechthra, Copsychus, Thamnobia, Dendrocitta, Zosterops,* and others) are strictly characteristic of the plains of India with their lower elevations. Seventeen genera are common to the mountains and elevated tablelands of the Himalayas, to Europe, to Central, and probably Northern, Asia—*Certhia, Cinclus,* and *Tichodroma*, for instance; seven are Himalayan genera, including, in all likelihood, Central-Asiatic species, *Hemichelidon, Propasser*, and a few more; and twenty-four are genera peculiar, within the Indian region, to the slopes, valleys, and jungles of the Himalayas. In the Central and Eastern Himalayan regions special genera, containing numerous species, abound; while in the north-western Himalayas these characteristic genera and specific forms rapidly diminish, and probably cease altogether before the eastern bank of the Indus is reached.

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* Ibis, 1868, pp. 302-321.

In his instructive preliminary sketch of the physical construction of the Sutlej Valley, Dr. Stoliczka supplies us with a ready explanation of this apparently anomalous commingling of the avifauna of such different zoological provinces. The Sutlej, without making a long eastern or western circuit, like the Bramapootra and the Indus, breaks, in an almost direct line towards the plains, through the intervening ranges of gigantic mountains, cutting its way, or bursting a passage, through the solid rock, and jumping, in a course of 180, or in a straight line of 110 miles, from an altitude of 13,000 to that of 1000 feet. Its valley and those of its affluents thus provide an easy means of access from the plains to the elevated tablelands north of the Himalayas, and become a direct highway for birds migrating from the north or the south of those mountains: and although, in historical times at least, neither the nations north nor south of the Himalayan barrier have ever availed themselves of these natural advantages, either for warlike or commercial purposes, Dr. Stoliczka almost implies that the most feasible route to or from Central Asia is to be met with by following the course of the Sutlej. The country of the plains extends to within the mouth of the valley; and there are still to be found the animals indigenous to the low country. Higher up, but yet in the lower portions of the valley, to an elevation of from 4000 to 5000 feet, many low-country species of birds find those conditions of food and climate which become suspended in the plains during the great heat and drought of summer, and the means of forming their nests and rearing their young. And there also a few Central-Himalayan hill-forms occur, but diminished in variety and number of species, having almost reached their western geographical limit through the action and effects of an increased latitude; while, as the valley continues rising to its greatest elevation, the species and genera of the Central-Asiatic fauna begin to appear, increasing in number until, when the summit is gained, they almost exclusively predominate.

Ibis, 1869, p. 210.

In short, this valley has its beginning in the Tibetan zoological province, and its termination in the Indian; is a highway for birds which pass the summer in central or northern Asia and the winter in India; is alternately a refuge for those Tibetan birds which cannot endure the rigour of a Tibetan winter, and for those Indian species which are unable to support the great heats of summer; and is the permanent habitation of the declining Eastern-Himalayan hill-forms, and of those species which are characteristic of a temperate yet unelevated region in the higher latitudes of the Old World, like *Loxia*, *Pyrrhula*, *Carduelis*, and *Garrulus*, and help to connect the avifauna of Europe with that of Hindostan. The meeting together in the Catalogue of the Ornis of a single valley of such zoo-geographical extremes as *Lerwa nivicola*, and *Temenuchus pagodarum*, *Carduelis caniceps* and *Arachnothera magna*, *Montifringilla adamsi* and *Xantholæma indica*, is thus accounted for.

Ibis, 1869, p. 211.

Of the two hundred and eighty species collected or observed by Dr. Stoliczka, there are described as new, *Linota pygmæa*, *Fringillauda sordida*, and *Munia similaris*. The first two appear to have been hitherto undescribed; but the third is undoubtedly *Munia undulata* (Lath.)*

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* The synonymy of this genus is in some confusion. Three original descriptions of a *spotted Munia* were published previously to 1766,—one by Albin, with a coloured plate (1738), from a bird said to have come from China, one by Edwards (1743), with a coloured plate, said to be from the East Indies, where it is called *Cowry bird*, and one by Brisson (1760), from a specimen obtained near Batavia, in Java. Linnæus (S. N. i. p. 302) quotes Edwards first, and then Brisson, omitting Albin. If the first reference is to be taken as having supplied the type, the Indian bird must stand as *M. punctularia* (L.);

in first plumage. Three species, belonging to the genera *Phylloscopus*, *Allotrius*, and *Hydrobata*, are noted as undetermined. From description alone, it is difficult to identify some of the small Warblers; and the species described may possibly be new. It is said to resemble *Phylloscopus rama* (Sykes), but to be decidedly smaller. So many Asiatic species have already been described closely resembling Col. Sykes's bird, that Dr. Stoliczka has exercised a laudable caution in not adding another. The *Allotrius* our author considers to be the *Pteruthius xanthochlorus* of Ibis, 1869, p. 212. Hodgson (J. A. S. B. 1847, p. 448), hitherto regarded as the female of *P. melanotis*, Hodgs. (*l. c.*), which, again, is erroneously identified by Dr. Jerdon (B. Ind. ii. p. 246) with *Allotrius ænobarbus*, Temm., of Java. The female of this conjectured female of another species is described for the first time by Dr. Stoliczka; and if we are to accept his conclusions, *Pteruthius xanthochlorus*, Hodgs., must resume its rank as a second Indian species of *Allotrius*. The plumage, as described, of the doubtful *Hydrobata*, notwithstanding the absence of a perfectly white throat and breast, seems to indicate that of a young *Cinclus asiaticus*, Sw. In one of the earlier stages of plumage of this species, the underside is clothed with smoky-brown feathers, each of which is edged with a dusky-grey fringe. In those of the flanks and upper surface the fringe is fulvous, occasionally mixed with dusky grey. The secondaries are edged with white, those nearest the body being completely surrounded with a white margin. The primaries and some of the rectrices are slightly tipped with white. The tarsus, feet, and claws in the dried skin are dirty yellow, whereas in the adult bird they are brown. The pale fringing of the body-feathers gives the plumage a scale-like or spotted aspect. In another stage, probably that of an older bird, the edgings of the ventral region and lower breast only are dusky white, all the rest being fulvous, while the wing-feathers are less boldly margined with white, and the tarsi and feet are darker. In a third stage still more nearly approaching that of the adult garb, the whole of the plumage is coloured as in fully adult birds, save that of the chin and throat, in which the dusty-white fringe occupies nearly the whole of each feather. On the upper breast a few feathers here and there are tipped with dusky white, making it appear spotted; and although the primaries are uniform brown, the secondaries still retain the narrow white margin. The legs are almost as dark as in the adult. Under and above each eye is a white mark; and this is to be found, though less prominently, in birds which are otherwise in completely adult plumage. The bill appears to acquire increased dimensions in this species, even after the plumage has reached its perfect stage. Two birds are introduced as new to the fauna of the Indian region as limited by Dr. Jerdon,

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if the second, the Linnæan title must be applied to the Javan bird, *Fringilla nisoria*, Temm. Jerdon's *White-backed Munia* (B. Ind. iii. p. 356) is clearly not *Loxia striata*, L., founded on Brisson's "Gros-bec de l'Isle de Bourbon" (Orn. iii. p. 243), which has the entire upper surface uniform. If not indigenous to that island, Brisson's type probably came from Java, where a species exists fully answering to his description (*M. leucogastroides*, Moore, Cat. E. I. Co. Mus. ii. p. 510). The Indian bird must stand as *M. leuconota* (Temm. Pl. Col. livr. 84, May 8, 1830, descr. orig. ex Bengal). The propriety of applying the Linnæan title of *L. malacca*, founded on Brisson's "Gros-bec de Java" (Orn. iii. p. 237), to Jerdon's *Black-headed Munia* (B. Ind. ii. p. 352), depends upon the identity of the Indian with the bird of Java, whence Brisson's type came. Linnæus included two distinct species under this title. *M. kelaarti*, Blyth, from Ceylon, first described by Mr. Blyth, with a doubt, as *M. pectoralis*, Jerd. (J. A. S. B. 1851, p. 178), is, I strongly suspect, the same as *Ploceus fringilloides*, Lafresn. (Mag. de Zool. 1 ser. tab. 48, December 1835), ex Ceylon.

Tetraogallus tibetanus, Gould, and *Alaudula pispoletta* (Pall.)*. But the following three species, noticed by Dr. Stoliczka, must be added:—*Linota brevirostris*, Gould, admitted, with some doubt, as distinct from *L. montium* (Gm.), by our author and Herr von Pelzeln (Ibis, 1868, p. 319); *Montifringilla adamsi*, Moore; and *M. hæmatopygia*, Gould. All three visit the valley of the Sutlej during the winter, and, together with *Allotrius xanthochlorus*, increase the list of Indian species by six. *Emberiza stracheyi*, Moore, however, is considered identical with *E. cia*, L.; and thus the Indian list is reduced by one; while *Corvus tibetanus*, Hodgs., is regarded as scarcely separable from *C. corax*, L.; *Fregilus himalayanus*, Gould, as not distinct from the European Chough, and *Regulus himalayensis*, Blyth, upon Herr von Pelzeln's authority, as identical with *R. cristatus*. A hitherto somewhat dubious species, *Petrocincla castaneocollis*, Less. (Rev. Zool. June 1840, p. 160), was rediscovered by Dr. Stoliczka in West Tibet, north of Dras, and is expected by him to be found residing in the Punjâb during the winter. He identifies it with *P. saxatilis* (L.). It is remarkable that *Lanius cristatus*, L., is not included in the list of the Sutlej-Valley birds. The only Rufous-tailed Shrike procured is identified as *L. arenarius*, Blyth, and was but once met with east of Chini. In the summer it is said to be more common in Tibet. Hodgson's name *Budytes citreoloides* is adopted for the *Yellow-headed Wagtail*, upon the authority, apparently, of Mr. Blyth, as quoted by Dr. Jerdon (B. Ind. iii. p. 873). Wherein Hodgson's species differs from that of Pallas, I have failed to discover. Indian examples agree in every respect with the description given by Pallas (Reise, 1776, iii. App. p. 696, no. 14) of his type specimen, which was obtained on the 26th of April (O. S.) in Siberia, and consequently had not assumed the full breeding-plumage. Pallas remarks that the same species is to be seen in Russia in spring, at the time when birds are migrating northwards. Dr. Stoliczka has omitted to describe the plumage of his specimens and the exact period of the year he met with them. The bird to which Hodgson gave the names of *Budytes calcaratus* and *B. citreoloides* is rarely found, in India, in full black and yellow breeding-plumage; and although some individuals may breed in the southern valleys of the Himalayas, yet, from the scarcity of examples in breeding-livery, we may infer that the greater part migrate in the spring further north. Any how, nothing less than a comparison made between a series of Siberian and Indian birds can determine the question; and even if the Indian bird proves to be distinct from *B. citreola* (Pall.), it will have to bear the title of *calcaratus*, Hodgs. (1836), which has a priority of eight years over that of

Ibis, 1869, p. 213.

Ibis, 1869, p. 214.

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* Zoog. Rosso-Asiatica, i. p. 526. It was observed by Pallas in southern Russia, and especially in the Caspian desert. He considered it to be the same as the bird named *Alauda spinoletta* by Linnæus (S. N. i. p. 288), from Italy. The Linnæan name Pallas altered to *pispoletta*, because Cetti (Ucc. di Sardegna, p. 159) stated that *pispoletta*, and not *spinoletta*, was the true Florentine name for the Italian bird, adding that the great Swede had never even seen it. *A. spinoletta*, L., is made equal to *Anthus aquaticus*, Bechst., by Bonaparte (Consp. Av. i. p. 247). Eversmann (Add. ad Zoog. Rosso-As. p. 16, 1835) refers *Alauda pispoletta*, Pall., also to *Anthus aquaticus*. Bonaparte, on the other hand, regarded it as a distinct species of *Alauda*, and referred *Alaudula raytal* (Buch.-Ham.) to it as a synonym. Dr. Stoliczka notes the differences whereby *A. pispoletta* is distinguished from *A. raytal*; and if the learned doctor's identification is correct, the discovery of Pallas's bird so far to the eastward is interesting. The specific title is unfortunate, founded, as it is, on the Florentine trivial name of a totally distinct species. Ménétriés (Cat. Raison. Caucas. p. 39) mentions that *A. pispoletta* is very common in the desert-plains on the shores of the Caspian during the months of April, May, and June. Later in the year he saw no more of it.

Ibis, 1869, p. 215.

*citreoloides**, Hodgs. *Parus cinereus*, Vieill., was observed as far north as West Tibet. Consequently, if we are justified in considering Javan, Cingalese, Western-Indian, Nipalese, Central-Indian, and Afghan individuals as belonging to one species, the range of this Titmouse is very extensive. But, judging from a comparison of specimens, the Javan, the Cingalese, and the race inhabiting north-western India are severally distinct. And whether we regard them merely as varieties, or refuse to rank them as separate species, it would be inaccurate to assert that a form identical with *P. cinereus*, from Java, also inhabits Tibet.

With these remarks I will now close this somewhat hasty sketch of the results of Dr. Stoliczka's researches, with a hope that it will not be long before he will find himself able to publish further observations on the ornithology of the Himalaya mountains, and the regions they separate from north-western India.

Ibis, 1869, p. 242.

Letter on Lanius superciliosus *and* Lanius magnirostris, *from* Viscount Walden, P.Z.S., *to the* Editor *of* 'The Ibis.'

Chislehurst, Kent, March 23rd, 1869.

Sir,—In a collection of birds' skins obtained in the island of Java, I have found examples of *Lanius superciliosus*, Lath., and *L. magnirostris*, Less., thus disposing of all doubts† as to the existence of these two species in that island. The first is not materially distinguishable from my Hakodadi example formerly figured in this Journal (1867, pl. v. fig. 2), nor from Malaccan specimens which I have lately seen. This species, therefore, possesses a wide range, and is probably migratory. It is the same as "*L. phœnicurus*, Pall." of Schrenck (Reisen im Amur-Lande, i. p. 384); but I have not as yet been able to determine whether he has rightfully identified Pallas's species. The examples of *L. magnirostris* in no way differ from Malaccan and Sumatran individuals; the titles consequently of *L. ferox*, Drap., and *L. crassirostris*, Kuhl, must fall to the rank of synonyms.

I am, &c. Walden.

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* Fortunately Pallas's bird escapes having to take the specific title of *sheltobriuschka*, Lepechin (*Iter.* ii. p. 187, tab. 8. f. 1, 1775—a work published one year previously to Pallas's travels), which is given as a synonym by Gmelin, Latham, Blyth, and Horsfield and Moore. Lepechin calls his species *Der Bachstelze mit dem gelben Bauche*, and adds the name above quoted as being that by which this bird is known in Russia. Gmelin (S. N. i. p. 962) latinized the Russian word without adopting it, and hence the origin of the synonym. In the 'Zoographia' Pallas altered his title to *Motacilla citrinella*; and Lesson described the species (Traité, p. 422, 1831) under the title of *M. aureocapilla*. By both these authors the winter plumage alone is described.

† *Cf.* Ibis, 1867, pp. 219–222. [*Antea*, pp. 43, 44.—Ed.]

On the Cuculidæ *described by Linnæus and Gmelin, with a Sketch of the Genus* Eudynamis. By Arthur, Viscount Walden, P.Z.S., &c. [From 'The Ibis,' 1869, plate x., *in. orig.*]

Ibis, 1869, p. 324.

It is now a quarter of a century since the rules for zoological nomenclature were promulgated by the British Association—a period sufficiently long to enable us to judge of their merits by the test of practical experience. How, then, do we now stand? To what extent have these rules been accepted, more especially the law of priority, by ornithologists at least? and how have they worked? To these two questions I believe an answer not altogether unsatisfactory may be given. The spirit of the rule of priority has more or less influenced every recent writer. One or two may have grumbled, ornithological Tories shocked at the revolutionary tendencies of the binomial principle. Some, its most ardent advocates at the time, have since viewed with rather peevish impatience discoveries of titles older than those they had accustomed themselves to regard as the oldest. Yet, on the whole, the endeavour of most ornithologists has been to discover the senior title and to adopt it; and if, now and then, the dead Fathers have been rather left to take care of themselves, yet when modern titles have come into conflict, the right of priority has invariably been asserted by the living author who felt his claim assailed. Ibis, 1869, p. 325.

But in the practical working of the rules the results are not as great as, after so many years of trial, we might fairly have expected. For this one reason is to be found in that rule which leaves it optional to authors to alter the old titles they do not consider appropriate. Thus the door is opened for the admission of every caprice, and confusion necessarily follows. What is first required is to ascertain and indisputably establish by universal agreement the oldest title of every species. When that is done it will be time enough to decide what titles are to be retained and which are to be rejected. But the principal reason why ornithological nomenclature has not reached the advanced position we wish it to occupy—the position of a cosmopolitan language conveying definite and identical ideas to all minds, is because no systematic effort has as yet been made to determine *all* the species of the older authors and place their titles as a whole on a firm foundation. To Sundevall, Pucheran, and Gray we are greatly indebted for the immense labour they have expended on their respective endeavours to identify the species of Sparrman and Le Vaillant, of Cuvier, Vieillot and Lesson, and of Buffon, Temminck, Le Vaillant, Edwards and Vieillot; while Moore and Cabanis, Hartlaub, Malherbe and Finsch have devoted an amount of sound labour on the nomenclature of the species they have to deal with, which can only be thoroughly appreciated by those who are well acquainted with their work. Nor must we forget the late Mr. Strickland and, alas! Mr. Cassin. Yet the foundation of a correct system of nomenclature cannot be said to have been laid until the whole of the species enumerated in the XIIth and XIIIth editions of the 'Systema Naturæ,' the very corner-stone of the structure we desire to raise, have been either identified or disposed of. As a slight contribution to a work of this nature, I purpose in the following pages to attempt the identification of the species belonging to the modern family of the *Cuculidæ* described in these two editions of the 'Systema.'

In the XIIth edition twenty-two species were enumerated by Linnæus under his genus *Cuculus*, and received titles; and one species was added as a variety. Of these, three belong to other genera, and of the remaining nineteen titles eleven have been more or less satisfactorily identified, leaving eight designations either undetermined or wrongfully or doubtfully Ibis, 1869, p. 326.

applied. Two of these undetermined titles were based on species originally described, one by Marcgrave, the other by Seba, at a date when imagination was largely drawn upon for facts. Still *Cuculus cornutus* may yet perhaps be found among the American Trogons, although *C. brasiliensis*, founded on Seba's description and figure*, is, I very much fear, a hopeless case. The plate represents a crested bird of a dingy carmine colour, with yellowish wings and tail, the bill stout, curved, and short, the feet with *three* toes in front encircling a branch. It is singular that Brisson, who never saw a specimen of this bird, and took his description from Seba, should have given not only the length of each toe, but should also have alluded to them in pairs as anterior and posterior. Buffon, who termed Seba's bird *Le Couroucoucou* (Hist. Nat. vi. p. 298), considered it a link between the Trogons and the Cuckoos, "En supposant que son indication donnée par Seba soit moins fautive et plus exacte que la plupart de celles qu'on trouve dans son gros ouvrage"†.

C. dominicus, L., ex Brisson (Ornith. iv. p. 10), who described either from a Guianian or a Louisianian example, or else from one from St. Domingo in M. de Réaumur's cabinet, thus confounding the three, but not telling us from which individual he made his description. Dr. Cabanis (Mus. Hein. iv. p. 75), considers Brisson's *C. dominicensis* to be the same as *C. americanus*, L., Ibis, 1869, p. 327. ex Catesby (N. H. Carol. i. p. 9, t. 9). From this view Mr. Sclater (P. Z. S. 1864, p. 119) differs. I must leave it to others to decide between these two high authorities.

Crotophaga ambulatoria, L., seemingly an original description, can be nothing but *C. ani*, L. I introduce it here, belonging as it does to the modern family of the *Cuculidæ*.

The next six species are from the east; and five, if not all six, belong to the genus *Eudynamis*. They are:—

1. *C. honoratus*, L., ex Briss. Orn. iv. p. 136, no. 15, descr. orig.
2. *C. scolopaceus*, L., ex Edw. Birds, ii. p. 59, descr. orig.
3. *C. niger*, L., ex Edw. p. 58, t. 58, descr. orig.
4. *C. orientalis*, L., ex Briss. p. 142, no. 18, descr. orig.
5. *C. punctatus*, L., ex Briss. p. 134, no. 14, descr. orig.
6. *C. mindanensis*, L., ex Briss. p. 130, no. 12, descr. orig.

The species to which Linnæus gave the title of *honoratus* was described by Brisson from a drawing made by Poivre of the living bird. Brisson says "Habitat in Malabaria, ubi honores ipsi redduntur." Hence the Linnæan title. No modern author, I believe, has confirmed this statement; but Latham, from an independent source, mentions that the "Coweel" (*C. indicus*, Lath.) is held in veneration by the Mahometans. Vieillot (N. Dict. viii. p. 227) informs us that "cet oiseau, qui doit son nom à la mélodie et à l'étendue de sa voix, est en vénération dans la presqu'île de l'Inde." He adds that its flesh, which is blackish, tender, and agreeable to the taste, is much sought after by those natives who, not over nice, are rich enough to pay for a "Cuil," which is always sold at a high price. He goes on to quote, from the 'Essais philosophiques sur les mœurs de divers animaux étrangers,' this native proverb, "C'est un grand bien de manger le cuil, mais un grand péché de la faire tuer." Stephens accounts for the superstition by supposing that it is because this bird "feeds on reptiles of the more noxious kinds and insects." Some of the Indian correspondents of 'The Ibis' will perhaps let us know how much of all this we are to believe. Recent authors maintain that the Koel is frugivorous.

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* (Rer. Nat. Thesaurus, i. p. 162, t. 66. f. 2.) "Rostrum ejus dilutè rubrum, breve, et incurvum est, quale Pseudo-Psittacorum. Caput, pariter dilutè rubrum, cristâ ornatur saturatius rubente, ex nigris variegatâ. Dorsum quoque saturatè rubicundum est: at dilutiorem ventris ruborem nonnullæ distinguunt plumulæ flaventes. Alas dilutè rubentes suprà investiunt pennæ, flaventibus etiam aliis interstinctæ. Pennas remiges, longamque caudam, saturatè flavo conspicuas colore, umbra quasi nigricans obfuscat."

† Conf. *Columba adfinis*, Mœhring, Av. Gen. 103, not to be confounded with *Cuculus adfinis* of the same author (*C. persa*, L.), Hermann, Tab. affin. animal. p. 184.

There can be no doubt, after reading Brisson's description, that the bird Poivre figured was either a female or a young male of the common Indian *Eudynamis.* Brisson, moreover, states that the inhabitants of Malabar call this bird "Cuil."

Ibis, 1869, p. 328.

The specimen which Edwards figured in his 59th plate, and on which Linnæus founded *C. scolopaceus,* came from Bengal, and was lent to Edwards by Mr. Daudridge, of Moorfields. I find some difficulty in identifying it. Dr. Cabanis (Mus. Hein. iv. p. 49) refers it without hesitation to the female of the Indian Koel; and I would gladly concur if the account and figure given by Edwards left no doubt on the matter. But that author's description is so vague that it may be applied with more or less probability to other species of Cuckoos known to inhabit Bengal. The plate represents a bird of a general rufous or bay colour, while in the description the body-colour is stated to be brown. The figure will pass for any Cuckoo in the *hepatic* phase of plumage; on the other hand the bill, as figured and described, most nearly agrees with that of the Koel. The reasons Edwards gives for not regarding Mr. Daudridge's bird as the same as *C. canorus* only increase our difficulty:—"This bird being more like the common Cuckoo than the others here described*, it may be thought the same by slight observers of nature, so it will be proper to observe in what they chiefly disagree. First it is less by a full third part, though, by reason of the superior length of the tail, this bird is an inch or more longer than the common Cuckoo; that is white, with regular continued transverse lines, on the under side, from the breast downward; this hath the belly and under side white mixed with orange and sprinkled with black spots: that hath bright gold-coloured legs; this hath them of a dirty yellow, rather inclining to green; but I am more certainly convinced, who have seen and compared the birds together, than another can be by my persuading him to be of my opinion: the tail-feathers of the common [Cuckoo] are tipped with white, but in this there is no appearance of it." If a *Eudynamis,* it would seem unnecessary to prove that it is not the same as *C. canorus.* Mr. Gray (Gen. B. App. p. 42) refers Edwards's 59th plate to *Eudynamis orientalis,* meaning the common Indian Koel.

Ibis, 1869, p. 329.

C. niger, L., offers less difficulty. The type was likewise supplied to Edwards by Mr. Daudridge, who obtained it from Bengal, "where it is called in the country language Cukeel." It is thus described:—"The head, body, wings, and tail are covered in every part with deep black feathers, without any mark or spot of other colours; .... the feathers have a shining lustre on them." This can only apply to the Koel; and in this identification I am happy to agree with Dr. Cabanis (*l. c.*), who was the first to point out the "unglücklicher Missgriff" of Mr. Blyth in identifying *C. tenuirostris*†, J. E. Gray (Ill. Ind. Zool. ii. t. 34. f. i., 1833), with it.

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* Namely, *C. persa,* L., *C. glandarius,* L., and *C. niger,* L.

† *Polyphasia nigra,* Jerdon (B. Ind. i. p. 333), which must stand as *Cacomantis passerinus* (Vahl, Skr. Nat. Selsk. iv.

The next title, *C. orientalis*, L., has hitherto been the one adopted by Indian authors for the Indian Koel. Brisson originally described the bird on which Linnæus founded the above title from a specimen in M. de Réaumur's possession, sent to him by Count Bentinck, who received it from "les Indes Orientales." The description is that of an adult male *Eudynamis*; but as no definite *habitat* is given, its identification cannot be demonstrated by direct proof. Yet, by implication, we may fairly infer, from the account Brisson gives of the individual on which Linnæus based his *C. punctatus*, that both birds belong to one and the same species. Now the subject of this last title was also obtained from the East Indies by Count Bentinck, and given to M. de Réaumur. It was a skin of a young male or nearly adult female; and the description, while in no way agreeing with what we find in the Indian species, does tally with the marked characteristics which distinguish the females and young of *E. ransomi*, Bp., or at least of the group of which it is typical, if there is more than one species, as there is reason to believe. The following are the grounds for concluding that *C. indicus niger*, Briss. (=*C. orientalis*, L.), and *C. indicus nævius*, Briss. (=*C. punctatus*, L.), are nothing but the same species in different phases of plumage—the black and the spotted. They both were sent to the Dutch
Ibis, 1869, p. 330. Count Bentinck, who gave them to M. de Réaumur. The measurements, as given by Brisson, of the two are almost identical. These dimensions are much larger than those of any other species of *Eudynamis*. The length of the bills he states respectively as 1 inch 5 lines and 16 lines, of the tails 8 inches 4 lines and 8 inches, and so on. These reasons may perhaps not appear conclusive of the identity of the adult male *C. orientalis* with *C. punctatus*; but it is also the opinion of Dr. Cabanis*, who has studied this group with great research. Moreover *C. punctatus*, L., has been referred by Müller, Bonaparte, and others to either one or other of the Koels inhabiting the Moluccan Islands; and even if it be not admitted that *C. orientalis*, L., is the adult male of *C. punctatus*, L., there can be no doubt that it is not the Indian, Cingalese, Malayan, Javan, Philippine or Australian bird—unless, indeed, we are to follow Professor Schlegel (Mus. P.-B. *Cuculi*, pp. 16–20), and include all individuals of the genus (*E. melanorhyncha*, Müll., excepted) under one species.

The account of *C. mindanensis*, the last of the Linnæan species referable to *Eudynamis*, is also to be found in Brisson. That exact and trustworthy author described the species from a specimen in M. d'Aubry's cabinet, which came from the island of Mindanao.

During the twelve years that elapsed before Gmelin published his XIIIth edition of the 'Systema Naturæ,' great progress was made in the discovery of new species of birds. A number of authors rose on the ornithological horizon; and from their works Gmelin extracted descriptions of twenty-four species (additional to the Linnæan) and ten varieties belonging to the Cuculidæ, one species of *Crotophaga*, and two species of the Cuculidæ which he erroneously classed under other genera, while two species referred by him to *Cuculus* belong to other groups.

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1. p. 57, 1797), according to Dr. Cabanis. Those who agree with Mr. Blyth in the generic distinction of this species will have to adopt the generic title of *Ololygon*, Cab. (*t. c.* p. 20, note), in lieu of *Polyphasia*, Blyth, previously employed by Stephens, 1829.

* When engaged some time ago in working out the synonymy of the species belonging to the genus *Eudynamis*, I arrived at the above conclusion before I had referred to the 'Museum Heineanum;' and my satisfaction was great on finding that Dr. Cabanis had independently adopted a similar view.

But out of the whole number of twenty-nine species only nine can retain Gmelin's titles; for the remainder are either duplicates, or their designations are forestalled by previous authors, or else have been raised to generic rank. Ibis, 1869, p. 331.

The following titles were given to doubtful species, or have not been correctly applied:—

C. bengalensis, Gm., ex Brown, Ill. p. 26, t. 13. fig. inf. from Bengal. A *Centropus* in striated plumage, either a young male or a young female; for the phases of plumage in this species, and what they denote, have yet to be investigated by naturalists on the spot. The figure is clearly that of the Lesser Indian Coucal, *Centropus viridis*, Jerdon (B. Ind. i. p. 350). The true *C. viridis* (Scop.) must be compared before we can decide whether the Indian and Philippine birds are identical. Prof. Schlegel keeps them separate, but, under the name of *C. rectunguis*, Strickl., unites (*op. cit.* pp. 67–70) the Bengal bird with forms from many other localities which have been described as distinct—among them the West-African *C. grilli*, Hartl.

C. panayanus, Gm., ex Sonn. Voy. p. 120, t. 78, from the island of Panay. A *Eudynamis*, a female or young male, no doubt the same as *E. mindanensis* (L.).

C. maculatus, Gm., ex Buff. Pl. Enl. t. 764, from China. A young male, or a female *Eudynamis*. On the assumption that the Philippine bird migrates to China, and is the only species found in that country*, I refer this title to *E. mindanensis* (L.): anyhow it forestalls *E. chinensis*, Cab. & Heine (Mus. Hein. iv. p. 52).

C. orientalis, L., var. β, Gm., ex Buffon, Hist. Nat. Ois. vi. p. 383, Coukeel, no. 2. A *Eudynamis* in full male black plumage, from Mindanao, and therefore *E. mindanensis* (L.).

C. radiatus, Gm., ex Sonn. Voy. p. 120, t. 79, as yet not perfectly recognized. The type is from Panay. Strickland, it is true (J. A. S. B. 1844, p. 390, note), has stated that it is a good species, and that he possessed a specimen from Malacca "exactly agreeing with Sonnerat's description," except that the tail was not even. Dr. Cabanis (*t. c.* p. 29) suggests that Sonnerat described from a made-up specimen. Until we are better acquainted with the ornithology of the Philippines, it will be best not to hazard an opinion. Unfortunately Sonnerat is not to be trusted. Ibis, 1869, p. 332.

C. flavus, Gm., ex Sonn. Voy. p. 122, t. 81. The original description is by Sonnerat, who gives the Island of Panay as the *habitat*. But Gmelin first cites "Pl. Enl. 814," an original drawing from an individual whose derivation is not known, unless we may assume that it was Sonnerat's specimen. Montbeillard (Hist. Nat. Ois. vi. p. 382) quotes Sonnerat's description word for word. Sonnerat's bird belongs to the group of small grey-breasted, rufous-bellied Cuckoos, which extend throughout the Indian Archipelago. Until examples are brought together from all localities and compared, the synonymy of the group cannot be determined. Prof. Schlegel (*t. c.*) regards them all as belonging to one species. Philippine specimens exist at Leyden; and Dr. von Martens procured it at Manilla (Journ. f. Orn. 1866, p. 19).

C. lucidus, Gm., ex Lath. Syn. ii. pt. 2. p. 528, no. 24, t. 23, from New Zealand (nec Cab. *t. c.* p. 14). This title applies to the New-Zealand *Lamprococcyx* only.

C. melanoleucus, Gm., founded on Montbeillard's description of a specimen sent by Sonnerat from Coromandel, and Pl. Enl. 872, erroneously referred by Mr. Gray (Gen. B. ii. p. 464) to *C. serratus*, Sparrm. Boddaert's title, *C. jacobinus*, founded on the same plate, takes precedence.

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* *Conf.* Swinhoe, Ibis, 1861, p. 46; P. Z. S. 1863, p. 264. Mr. Blyth (Ibis, 1865, p. 32) refers the Chinese bird to *E. australis*, Swains., from Australia. Mr. Swinhoe (Ibis, 1866, p. 131) states that the Philippine and the Siamese *Eudynamis* are the same species.

I have failed to detect the slightest difference between the plumage of adult birds from South Africa (*Coccystes hypopinarus*, Cab. & Heine, *t. c.* p. 47) and from India and Ceylon. The South-African bird, however, possesses a somewhat stouter bill and a longer wing and tail. I have compared a large series of Cingalese individuals with specimens from Malabar, Candeish, Simla, and north-eastern India, and have found the Cingalese form slightly smaller in all its dimensions. It is the Ceylon Cuckoo of Latham (Gen. Hist. iii. p. 291). *C. pica*, Hemp. & Ehrenb., from north-eastern Africa, is doubtfully distinct.

Ibis, 1869, p. 333. *C. canorus*, L., var γ, Gm. ex Beseke, Schr. Berl. Naturf. Ges. vii. p. 452, seems to be nothing more than a variety described from Courland. Beseke's account has been ignored by the authors I have had opportunities of consulting (*conf.* Beseke, Vög. Kurl. nos. 53, 54).

C. madagascariensis, Gm., var β, description taken, but not acknowledged, from Montbeillard (*t. c.* p. 364), who quotes from a note made by Commerson. This traveller found it in company with *C. gigas*, Bodd. "Il a sur la tête un espace nu," lightly furrowed, coloured blue, and surrounded by feathers "d'un beau noir," those of the head and neck silky. Some bristles round the base of the bill. Inside of mouth and tongue black. Tongue forked. Irides reddish. Thighs and inside of the quills blackish. Feet black. Nearly of the size of a fowl. Weight 13½ ounces. Total length 21¾ inches. Bill 19 lines, "ses bords tranchans." The nostrils similar to those of gallinaceous birds. Eighteen quills in the wing. Wings extended, 22 inches. The outer posterior toes capable of being brought forward. The size of this species, together with its possessing a naked space of blue skin on the head, identifies it with *Coccyzus delalandii*, Temm. Pl. Col. 440, from Madagascar (1827).

C. punctulatus, Gm., founded on Latham's "Punctuated Cuckoo" (Syn. i. pt. 2, p. 541. no. 39), described from a specimen he had received among "various other birds from Cayenne." Mr. Sclater considers it to be *Diplopterus nævius* (L.), in adolescent plumage.

C. ridibundus, Gm., a bird of Mexico, founded on the "*avis ridibunda*" of the ante-Brissonian authors. Hernandez (Hist. Nov. Hisp. cap. clxxix. p. 49) says that before the introduction of the true faith it passed for a bird of bad omen. It is apparently *C. mexicanus*, Swainson (Phil. Mag. i. p. 440, 1827).

C. nævius, L., var. β, Gm., founded, but without acknowledgment, on Sonnini's "*Oiseau des barrières*" (Montbeillard, *op. cit.* v. p. 412), "common in Guiana and Cayenne," is possibly *C. nævius*, L., in some hitherto unrecognized phase of plumage. Dr. Sclater is unacquainted with it; and it does not appear to have been identified by any author. If distinct, it will stand as *C. septorum*, Vieill., Enc. iii. p. 1343.

Ibis, 1869, p. 334. *C. dominicus*, L., var. β, Gm., also taken from Montbeillard (*t. c.* p. 413) and without acknowledgment. Described from "*le petit Coucou gris*" of M. Mauduit's cabinet, which is stated only to differ from "*le Cendrillard*" of Montbeillard (*C. dominicus*, L.) by being a little larger, having a slightly shorter bill, and the entire under surface white. The origin of Mauduit's specimen is not stated. It does not seem to have been recognized by any author; nor does its description agree with any species known to Dr. Sclater.

C. cayanus, L., var. γ, Gm. ex Montbeillard (*t. c.* p. 416), but unacknowledged. Lesson (Tr. d'Orn. p. 140, 1831) identified a Cayenne individual with Gmelin's species, and entitled it *Piaya brachyptera*. The species had previously, and has since, received several different titles, the oldest of which, *C. melanogaster*, Vieill. (Dict. Class. H. N. iv. p. 570), stands—unless indeed Vieillot's bird be not in reality *Rhinortha chlorophæa* (Vig.), with which it very closely agrees, the red bill excepted. Vieillot states that his type came from Java.

Trogon maculatus, Gm., ex Brown, Ill. p. 26, t. 13. fig. super. from Ceylon; a *Lamprococcyx* in spotted immature plumage. Gmelin's title was altered to *Chrysococcyx smaragdinus* by Mr. Blyth (J. A. S. B. 1846, p. 53) as inapplicable, although Brown's figure "certainly represents a variety or incidental state of plumage of this species." Mr. Moore also considered Gmelin's designation "quite inapplicable," but rejected that of Mr. Blyth as previously employed by Swainson, and substituted *Chrysococcyx hodgsoni* (Cat. E. I. Co. Mus. ii. p. 705, 1856–58). Dr. Cabanis, who quotes Brown and Gmelin with doubt, separates *Chalcites smaragdinus*, Sw., generically from the Indian bird, and therefore restores Mr. Blyth's title. The name given by Gmelin appears to me quite as applicable as either of the two more recent ones, and I therefore shall retain it. Should Continental specimens differ specifically from Cingalese, Mr. Blyth's name would stand for the Indian bird.

I shall now subjoin a list of the Linnæan and Gmelinean species referred to their correct genera, with the titles they will have to bear.

Species enumerated under the genus *Cuculus*, L., in the Twelfth Edition of the 'Systema Naturæ' (1766):— Ibis, 1869, p. 335.

1. *Cuculus* CANORUS, L., "Europa."
2. *C.* (*Eudynamis*) ORIENTALIS, L., "Ind. orient."
3. *C.* (*Eudynamis*) MINDANENSIS, L., "Ins. Philipp."
4. *C.* (*Saurothera*) VETULA, L., "Jamaica."
5. *C.* (*Coccystes*) GLANDARIUS, L., "Africa septentr., Eur. austr."
6. *C.* (*Centropus*) SENEGALENSIS, L., "Senegalia."
7. *C.* (*Eudynamis*) HONORATUS, L., "Malabaria."
8. *C.* (*Eudynamis*) *punctatus*, L., "Ind. orient."=*C.* ORIENTALIS, L.
9. *C.* (*Diplopterus*) NÆVIUS, L., "Cayania."
10. *C.* (*Coccyzus*) AMERICANUS, L., "Carolina."
11. *C.* (*Eudynamis* ?) *scolopaceus*, L., "Bengala." =*C.* HONORATUS, L.
12. *C.* (*Eudynamis*) *niger*, L., "Bengala." =*C.* HONORATUS, L.
13. *C.* (*Coccyzus*) *dominicus*, L., "Dominica, Ludovicia." =*C.* AMERICANUS, L. ?
14. *C.* (*Piaya*) CAYANUS, L., "Cayana."

14 bis. *C. cayanus*, var. β, L.=*Piaya* MINUTA, Vieill.

15. *C.* (*Coua*) CÆRULEUS, L., "Madagascaria."
16. *C.* (*Urocissa*) SINENSIS, L., "China."
17. *C.* (*Turacus*) PERSA, L.*, "Guinea."
18. *C.* (—— ?) BRASILIENSIS, L., "Brasilia."
19. *C.* (*Coua*) CRISTATUS, L., "Madagascaria."
20. *C.* (*Coccystes*) COROMANDUS, L., "Cormandel."

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* On the true *C. persa*, L., see Rüppell, Archiv für Naturgesch. xvii. i. p. 316, also Hartlaub, *op. cit.* xviii. i. p. 18, and Contr. Orn. 1852, for translation. See likewise Swainson, B. W. Afr. i. p. 225, and Verreaux, Rev. Zool. 1851, p. 257. The subject has been much discussed, yet not exhausted. The species figured and described by Albin (Birds, ii. p. 18, t. 19, 1738) must be regarded as the Linnæan type, and not, as has hitherto been done, that of Edwards.

21. *C.* (*Trogon* ?) CORNUTUS, L., "Brasilia."
22. *C.* (*Dissemurus*) PARADISEUS, L., "Siam."

To these must be added the species classed by Linnæus in his genus *Crotophaga*.

Ibis, 1869, p. 336.

1. *Crotophaga* ANI, L., "Africa (!), America."
2. *C.* (—— ?) *ambulatoria*, L., "Surinam."=*C.* ANI, L. ?

Additional species incorporated by Gmelin in the Linnæan genus *Cuculus*, in his Thirteenth Edition of the 'Systema Naturæ' (1788).

1. *Cuculus canorus*, L., var. β, Gm. =*C.* CANORUS, av. juv.
2. *C. canorus*, L., var. γ, Gm.=*C.* CANORUS, L. ?
3. *C. capensis*, Gm., "Cap. bonæ spei."=*Cuculus* CAPENSIS, Müller (1776).
4. *C. orientalis*, L., var. β, Gm., "India." =*C.* MINDANENSIS, L.
5. *C.* (*Hyetornis*) PLUVIALIS, Gm., "Jamaica."
6. *C.* (*Coccyzus*) MINOR, Gm., "Cayenna." =*Cuculus seniculus*, Lath. (1790).
7. *C.* (*Coccystes*) *serratus*, Gm., "Cap. bonæ spei."=*C.* SERRATUS, Sparrman (1786).
8. *C.* (*Eudynamis*) *tahitius*, Gm., "Ins. Societatis."=*C.* TAITIENSIS, Sparrman (1787).
9. *C.* (*Centropus*) BENGALENSIS, Gm., "Bengala."
10. *C.* (*Eudynamis*) *panayanus*, Gm., "Ins. Panay."=*C.* MINDANENSIS, L.
11. *C. nævius*, L., var. β, Gm., "Gujana."=*Coccyzus septorum*, Vieill. =*C.* NÆVIUS, L. ?
12. *C.* (*Diplopterus*) *punctulatus*, Gm., "Cayenna ?"=*C.* NÆVIUS, L., av. juv. ?
13. *C.* (*Piaya*) RIDIBUNDUS, Gm., "Nova Hisp."=*C. mexicanus*, Sw. ?
14. *C. guira*, Gm., "Brasiliæ silvis."=*Guira* PIRIRIGUA (Vieill.).
15. *C.* (*Eudynamis*) *maculatus*, Gm., "Sina."=*C.* MINDANENSIS, L.
16. *C.* (*Coccystes*) *ater*, Gm., "Prom. bonæ spei." =*C.* SERRATUS, Sparrman.
17. *C.* (*Coccystes*) *melanoleucus*, Gm., "Coromandel."=*Cuculus* JACOBINUS, Bodd. (1783).
18. *C.* (*Coccystes*) *pisanus*, Gm., "Pisis."=*C.* GLANDARIUS, L.
19. *C.* (*Coua*) *madagascariensis*, Gm., "Madagasc."=*Cuculus* GIGAS, Bodd. (1783).

Ibis, 1869, p. 337.

20. *C. madagascariensis*, var. β, Gm., "Madagasc."=*Cochlothraustes* DELALANDII, (Temm.) ?
21. *C. dominicus*, L., var. β, Gm.=—— ?
22. *C. cayanus*, L., var. γ, Gm. =*Piaya* MELANOGASTER (Vieill.), *fide* Cabanis.
23. *C.* (*Monasa*) *tranquillus*, Gm., "Cayenna."=*Cuculus ater*, Bodd. (1783),=*C.* NIGER, Müller (1776).
24. *C.* (*Chelidoptera*) *tenebrosus*, Gm., "Cayenna."=*Cuculus* TENEBROSUS, Pall. (1782).
25. *C.* (*Phœnicophaes*) *pyrrhocephalus*, Gm., "Zeylon."=*Cuculus* PYRRHOCEPHALUS, Forst. (1781).
26. *C.* (*Leptosomus*) *afer*, Gm., "Madagasc."=*Cuculus discolor*, Herm. (1783),=*Cuculus* ÆNEUS, Bodd. [*] (1783).

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[*] This title, given by Boddaert, has hitherto been overlooked, possibly because he omitted his usual suffix of "*mihi.*" As it and Hermann's bear the same date, and as the latter author seems to have given his name incidentally, I retain that of the Dutch naturalist.

27. *C. afer*, Gm., var. *β*, "Madag."=*C.* ÆNEUS, Bodd.

28. *C. indicator*, Gm., "Africa."=*Indicator* SPARRMANI, Stephens (1815).

29. *C.* (*Centropus*) ÆGYPTIUS, Gm. [*], "Ægypto."

30. *C. ægyptius*, Gm., var. *β*, "Ins. Philipp."=*C. philippensis*, Cuv. (1817),=*C.* (*Centropus*) VIRIDIS, Scop. (1786).

31. *C. ægyptius*, Gm., var. *γ*, "Ins. Antigua."=*C.* (*Centropus*) VIRIDIS, Scopoli.

32. *C.* (——?) *radiatus*, Gm., "Ins. Panay."=*Cuculus* FLAVIVENTRIS, Scop. (1786).

33. *C.* (*Cacomantis*) *flavus*, Gm., "Ins. Panay."=*Cuculus* MERULINUS, Scop. (1786).

34. *C.* (*Lamprococcyx*) *auratus*, Gm., "Cap. bonæ spei."=*Cuculus* CUPREUS, Bodd. (1783).

35. *C.* (*Lamprococcyx*) LUCIDUS, Gm., "Nova Seelandia."

36. *C.* (*Centropus*) *tolu*, Gm., "Madagasc."=*Cuculus melanorhynchus*, Bodd. (1783)=*Cuculus* TOULOU, Müller (1776).

Crotophaga.

1. *Crotophaga* MAJOR, Gm., "Cayenna."

Species belonging to the *Cuculidæ*, but classed by Gmelin under other genera:— Ibis, 1869, p. 338.

1. *Trogon* (*Lamprococcyx*) MACULATUS, Gm., "Zeylon."

2. *Phasianus* (*Geococcyx*) MEXICANUS, Gm., "Nov. Hispan. calidioribus."

The species of the genus *Eudynamis* have remained in so much confusion, partly in consequence of the males being clothed in a uniform black garb, while the females and young males assume a spotted and barred or otherwise variegated plumage, that I avail myself of this opportunity to offer a sketch of the group. It must be remembered that the adult males are only to be distinguished specifically by their respective dimensions, the relative proportions of their dimensions, and by the form, and in two, if not in more instances, by the colour of the bill. Perhaps in some species the practised eye may safely rely on the nature of the iridescent hues of the plumage. But it is in the colouring, and its distribution, of the young birds and adult females that the most distinct and palpable difference prevails. A superficial observer might, for instance, confound the adult males of *E. honorata* (L.) and *E. ransomi*, Bp., but never the females and young birds.

1. EUDYNAMIS HONORATA[*] (L.), ex Briss. iv. p. 136, no. 15, "Malabaria," ♀ vel av. juv.

Cuculus niger, L., ex Edw. Birds, p. 58, t. 58, "Bengala," ♂ adult.

? *C. scolopaceus*, L., ex Edw. p. 59, t. 59, "Bengala," ♀ vel av. juv.

C. indicus, Lath., Ind. Orn. i. p. 211, no.11, ex Lath. Syn. Sup. p. 99 (1790), "India," ♂ adolesc.

C. orientalis, L., var. *γ*, Lath., Ind. Orn. i. p. 211, "Bengala," ♂.

? *C. crassirostris*, Steph., Gen. Zool. ix. pt. 1, p. 86 (1815), ex Le Vaill. Ois. d'Afr. v. p. 59, t. 214, "Africa" (!). Bengala, ♂.

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[*] I admit this title on the assumption that the North-African *Centropus* differs specifically from that of West Africa, *C. senegalensis* (L.).

[†] I give *honorata*, L., precedence, as it comes first in the 'Systema.'

! *C. crassirostris*, Vieill., N. Dict. viii. p. 229, ♀ (1817), ex Le Vaill. (*l. c.*).

Ibis, 1869, p. 339. *Eudynamis ceylonensis*, Cab. & Heine, Mus. Hein. iv. p. 51, note (1862), "Ceylon," ♂ adult.

E. orientalis (L.), Jerd., Birds of Ind. i. p. 342. no. 214.

E. nigra (L.), Cab., *t. c.* p. 49, "Ostindien."

Hab. in India, Ceylon.

The common Koel of India, the lower ranges of the Central and Eastern Himalayas excepted. Out of a large series of Ceylon specimens I have not found one that differed in the least from the Peninsular bird. The eastern range of this species is not satisfactorily determined; but I question whether it crosses the Brahmapootra.

2. EUDYNAMIS MALAYANA, Cab. & Heine, Mus. Hein. iv. p. 52, "Sumatra," ♂ adult., ♂ adolesc. (!) 1862–3.

A Koel closely allied to *E. honorata*, as I restrict it, but larger in all its dimensions, and with a conspicuously longer and stouter bill, inhabits Nipaul and Tenasserim. The Sumatran Koel is likewise regarded as distinct by Dr. Cabanis, and will probably be found to agree with the species from the localities I have named. Dr. Cabanis states that the Sumatran bird is larger, but that in all other respects it is the same as *E. honorata* as above. But a rigid comparison of a large series of specimens has yet to be made before the latter part of this assertion can be taken for granted. Indian ornithologists might greatly assist us by studying and recording the phases of plumage the Koel passes through before arriving at maturity.

These are the principal dimensions of the Indian, Javan, and Australian species:—

	Longitudo		
	rostr. a nar.	al.	caud.
E. honorata (L.), Candeish ♂ adult	0·64	7·25	7·85
! *E. malayana*, Cab., Java ♂ adult.	0·90	8·00	8·50
E. cyanocephala, Lath., Queensland	0·81	8·13	8·25

Javan examples are remarkable for the length and stoutness of the bill; with a shorter wing and tail than *E. ransomi*, Bp., from Ceram, the bill is larger and deeper in the Javan bird. I have not seen specimens in the female or adolescent male plumage, nor have I been able to compare Javan with Sumatran specimens; but it is probable that the races from the two islands will be found to differ. From the bill being so conspicuously large, I strongly suspect that Javan examples furnished Le Vaillant with the subject of his "Coucou à gros bec," plate 214, in which case it would stand as *E. crassirostris* (Steph.). Ibis, 1869, p. 340.

3. EUDYNAMIS MINDANENSIS (L.), ex Briss. iv. p. 130, no. 12, "Ins. Mindanao," ♀ adult., vel ♂ adolesc.

C. variegatus, Scop., Fl. & Faun. Insub. ii. p. 89, no. 45 (1786), ex Sonn., Voy. Nouv. Guin. p. 120, t. 78, "Antigua," ♀ vel ♂ adolesc.

C. panayanus, Gm. ex Sonn., *l. c.*

C. maculatus, Gm. ex Buff. (Montb.), Hist. Nat. Ois. vi. p. 378; Pl. Enl. 764: "China," ♀ vel ♂ adolesc

C. maculatus, Bodd. ex Buff. Pl. Enl. 764 (1783).

C. orientalis, L., var. β, Gm., ex Buff. (Montb.) *l. c.* p. 383, no. 2, Mindanao, ♂ adult.

E. chinensis, Cab. & Heine, Mus. Hein. iv. p. 52, note, "Canton," ♀ ♂.

E. orientalis (L.), Swinh., Ibis, 1861, p. 46.

Hab. China. Ins. Philipp.

These titles are thrown together as synonyms of the Linnæan species, on the presumption, first, that the Chinese and Philippine species are one and the same, and, secondly, that they specifically differ from *E. honorata* (L.). Upon this last point I am not quite determined; but, judging from Buffon's 764th plate and Montbeillard's and Sonnerat's description, I believe them to be distinct. I have failed in seeing specimens of the female or young male. An adult Philippine male exists in Mr. Gould's collection, which possesses a stout bill, stouter than in *E. malayana*, from Tenasserim, and deeper than in *E. honorata*. Should it prove a distinct form, we shall have the following not improbable distribution of the three species:—*E. honorata* to the west, *E. mindanensis* to the east of the hill-ranges which descend from Assam southward through the Malay Peninsula; and *E. malayana* originating in the central Himalaya, inhabiting the slopes of the descending range, and extending at least all over Sumatra.

4. EUDYNAMIS CYANOCEPHALA (Lath.), Ind. Orn. Supp. p. xxx. no. 3 (1801), ex Lath., Syn. Supp. ii. pp. 137, no. 8, "New Holland," ♀ adult vel ♂ adolesc. Ibis, 1869, p. 341.

E. flindersi (Lath.), Vigors & Horsf., Linn. Tr. xv. p. 305 (1828), ex Lath., Gen. Hist. iii. p. 308, no. 63, "North Coast of New Holland," ♀ vel ♂ adolesc.

E. orientalis (L.), Vigors & Horsf. *t. c.* p. 304, "New Holland," ♂ adolesc.

E. australis, Swains., An. in Menag. p. 344, no. 189, "Australia, ♂ adult.

Hab. New South Wales, Queensland, West Australia (*Gould*).

Latham's "Blue-headed Cuckoo" must certainly have been a *Eudynamis*; and as only one species is known to exist in Australia, I give the title founded on it precedence over his subsequent designation bestowed on a specimen obtained on the north coast by Captain Flinders, the type of which still exists in the British Museum.

A specimen of an adult male from Queensland in my collection possesses one bright rufous secondary quill, as observed by Mr. Vigors in Mr. Caley's example; only my specimen is otherwise in full black livery.

The difference between the plumage of the female and young of the Australian and Indian birds (*E. honorata*) is very striking. The female of the Indian species never has the black head and nape, the broad dark bands from the angles of the mouth, and the pale and almost immaculate fulvous breast we find in the Australian Koel. In other respects the markings, in shape, colour, and combination, are perfectly different. The type specimen of *E. flindersi* displays so anomalous a phase of colouring that I venture to surmise that it belongs to a second Australian species.

5. EUDYNAMIS ORIENTALIS (L.), ex Briss. iv. p. 140. no. 18, "Ind. Orient." ♂ adult.

C. punctatus, L., ex Briss. *t. c.* p. 134, no. 14, "Ind. Orient." ♀ vel ♂ adolesc.

E. picatus, Müller, Verh. Nat. Gesch. Ned. Overz. Bez. Land- en Volkenk. p. 176, "Amboyna," ♂ adolesc. plum. mut. (*fide* Schlegel, Mus. P.-Bas, *Cuculi*, p. 19).

Ibis, 1869, p. 342. *E. picata*, Cab. & Heine, *t. c.* p. 55, note.

The correct title for the Amboyna *Eudynamis* involves a problem in nomenclature most difficult to solve. Its satisfactory solution depends first upon the specific identity or otherwise of the Amboyna and Ceram birds, and next, if they be distinct, upon which of the two islands it was that supplied Brisson's types. Müller (*fide* Schlegel, *ut supr.*) gives from Amboyna *E. orientalis* (L.), *E. punctata* (L.), and *E. picata*, Müll. The old male he identified with the first title, the female with the second; and he described as distinct a young male passing into adult plumage under the third title. Prince Bonaparte (Consp. Av. i. p. 101) not only gives *E. picata*, Müller, from Amboyna, in which he is right, but also, as a separate species, *E. punctata* (L.), from that island and New Guinea. His having added this last locality renders it doubtful whether the specimen he had before him was from Amboyna or from New Guinea. And yet upon this turns the validity of the characters by which he distinguishes the Ceram species. For he defines *E. punctata* as "*similis præcedenti*" (*E. ransomi*, from Ceram) "*sed minor* (Long. 14 poll.)," etc. We know that the New-Guinea *Eudynamis* is smaller than that of Ceram; but it is not demonstrated yet that the Amboyna Koel also is smaller· Dr. Cabanis insists (*l. c.*) that Réaumur's specimen must have come from Ceram, chiefly for the reason that Brisson's dimensions are too large for the Amboyna race. But Dr. Cabanis is assuming that Bonaparte's "kleine vierzehnzöllige Art" is the true Amboyna species. The Ceram bird was considered distinct from the Amboyna bird by Forsten; for he entitled it *Cuculus punctatus*, var. *ceramensis*. Prince Bonaparte (*l. c.*) described the female bird from Ceram, Forsten's specimen, under the title of *E. ransomi*. Dr. Cabanis, as we have seen, regards the two birds as distinct species; but he does not appear to have seen Amboyna individuals. Professor Schlegel, of course, refuses to admit the specific distinction. I have failed in seeing an Amboyna specimen, and can offer no opinion. But it is a matter which must be decided before we can determine the title of the two birds. If we adopt Professor Schlegel's view, both birds will stand as *E. orientalis*. Ibis, 1869, p. 343. The dimensions given by Professor Schlegel of examples from the two localities do not strikingly differ:—Ceram, wing 7 inches 10 lines to 8 inches 4 lines; Amboyna, wing 8 inches 1 line.

It may be that the Amboyna Koel and the one known to inhabit a part of New Guinea are identical; but I am induced to decide that the Amboyna and Ceram Koel differ, solely because Forsten considered them to be different. He is the only ornithologist, besides Professor Schlegel, who, we know for certain, actually compared specimens from both islands; and, what is more, he procured the specimens himself.

Our only knowledge of the comparative size of the two species is confined to the dimensions given by Professor Schlegel already quoted; it is not sufficient to warrant us in affirming that the Ceram bird is the largest; and for the time the question must be left undetermined. Moreover, as the Dutch naturalists all unite in giving *Cuculus punctatus*, L., from Amboyna, the probability is that Count Bentinck's specimen came from there; I therefore cannot follow Dr. Cabanis so far as to refer the Ceram and not the Amboyna bird to *C. orientalis* vel *punctatus*, L.

6. EUDYNAMIS RANSOMI, Bp., Consp. i. p. 101, "Ceram," ♀ vel ♂ juv.? (1850). (Plate X. *in orig.*)
Cuculus orientalis, pt. Schleg., Mus. P.-B. *Cuculi*, pp. 18, 19, "Ceram."
E. orientalis, Cab. & Heine, *t. c.* p. 53.

This is a very handsome species, and perhaps the largest of the genus.

	Long. rostr.	al.	caud.
Bouru ♂ adult	0·88	8·50	8·75
„ ♀ (*fide* Wallace).	0·88	8·50	8·85

The bill is not so long nor as stout as in my Javan specimens (*E. malayana*), the other dimensions being greater. The adult male is entirely black with a green gloss; but the garb of the young birds assumes the most striking and peculiar variations, none of which are ever to be found in *E. honorata*, *E. malayana*, or *E. cyanocephala*. The bird here figured is either a young male or an adult female procured by Mr. Wallace in the island of Ceram, specimens from which are identical with those of Bouru. A second specimen has all the feathers of the chin and throat turning to black, while the remainder of the lower surface is nearly immaculate rufous-buff. Ibis, 1869, p. 344. Another specimen has the throat perfectly black, as well as the head and nape. A fourth, from Ceram, is entirely black except the abdomen, which is deep rufous-bay,—an adult male, having almost completed its moult. A fifth, a male moulting into adult plumage, is pied jet-black and rufous-buff.

A peculiarity of the Ceram and Bouru birds in adolescent male and adult female plumage is the regular well-defined and arched character of the rufous caudal bands and their great breadth. Brisson notices this character in his description of *C. punctatus*, L.; and if not possessed by the Amboyna bird, it will go far to support Dr. Cabanis's view. Brisson's words are "bandes transversales rousses, formant chacune un arc de cercle." I have not observed this character in examples of *Eudynamis* from any other locality.

7. EUDYNAMIS RUFIVENTER, Less., Voy. de la Coquille, p. 620, no. 23, "Nouvelle Guinée," ♂ adolesc. plum. mut. (1826).

A single specimen of an adult male *Eudynamis* was obtained by Mr. Wallace at Dorey, in New Guinea. Bill pale greenish. Its chief dimensions are:—wing 7·75 inches, tail 8, bill from nostril ·87. It differs from all the other species I am acquainted with, and I therefore enumerate it as distinct.

Lesson described from a young male passing into adult black plumage. It is probable that Mr. Wallace's individual is referable to Lesson's species: at the same time the colour of the bill does not quite agree; for the latter says "le bec est noir, la mandibule inférieure blanchâtre."

8. EUDYNAMIS MELANORHYNCHA, Müller, *l. c.* sp. 2, "Celebes."

This is the *Eudynamis* of Celebes, distinguishable from all others except *E. facialis*, Wall., by its black bill at all ages. Having united under one species the Koels inhabiting the entire region between Ceylon and China, the Himalayas, and South Australia, Professor Schlegel remarks (*l. c.*) "C'est un fait digne de remarque que cette espèce, originaire de Célèbes, se trouve, pour ainsi dire, comme perdue au milieu de ces colonies nombreuses du *Cuculus orientalis*, Ibis, 1869, p. 345. répandues depuis l'Hindoustan, jusqu'aux Philippines, à la Nouvelle Guinée et l'Australie."

The black colour of a bill in this instance is admitted as a character of sufficient value to raise its possessor to the rank of a species, while characters of equal importance, as well defined and as persistent, are rejected in other members of the genus. If all the individuals inhabiting the vast region mentioned by the learned Professor did not differ, the restriction of this black-billed species to so limited an area would certainly be interesting, almost equal in interest to the fact of a yellow-billed *Centropus*, *C. chlororhynchus*, Blyth, dwelling in a limited part of the island of Ceylon, and there only, alongside of the widely distributed *C. rufipennis*, Illig. But if we allow, when discriminating species, other characters to have their weight, besides the mere colour of the bill, *E. melanorhyncha* only offers an instance of local restriction such as we find in many islands and even on continents.

The plumage of the female and young male in this species is, as in all the species of the genus, very remarkable and characteristic. In one individual the upper plumage is of deep chocolate-brown striated with black. In another, from Menado, in Mr. Gould's possession, the whole of the upper surface of the head, nape, wings, tail, and the back is dull olive-green, with a subdued sheen. Chin, throat, and cheeks dull smoky brown; remainder of under surface and the under wing-coverts fulvescent rufous, each feather crossed by two or three irregular narrow black lines. From the angle of the mouth a slender whitish line descends down the sides of the neck, sharply separating the fuliginous throat from the olive-green head and nape.

9. EUDYNAMIS FACIALIS, Wallace, P. Z. S. 1862, p. 339, "Sula Islands."

The only example of this species as yet obtained is the type specimen in Mr. Wallace's possession. It is possible that the white of the forehead and throat is not constant; but the shorter and differently shaped bill and smaller dimensions of the Sula bird are quite sufficient to distinguish it from the Celebes Koel. Judging by analogy, the females of the two species will certainly possess distinctive characteristics.

Ibis, 1869. p. 346. I possess a Koel in immature plumage, procured by Mr. Wallace, and marked from Flores; whether correctly so I rather doubt. Its entire upper surface is rusty brown, relieved on each feather by spots, centres, or bars of light rufous. The rufous caudal bands are more numerous, narrower, and more irregular than we find in *E. ransomi*, Bp., from Ceram. The entire under surface of the bird is dirty white, each feather with a brown centre or else with two or three brown irregular transverse bars. The dimensions are about equal to those of *E. ransomi*, Bp. If from Flores, this specimen represents a species distinct from the Javan form; but I suspect that it is the Ceram bird in young female garb.

As I consider *Cuculus taitiensis*, Sparrm., to be generically separable from *Eudynamis*, this closes the species of true Koels known to me. It is, however, not unlikely that a distinct species inhabits Timor, and another form Ternate.

1870.

*On the Sun-birds of the Indian and Australian Regions**. By ARTHUR, Viscount WALDEN, P.Z.S. &c. [From 'The Ibis,' January 1870, plate I. *in orig.*]

Ibis, 1870, p. 18.

ALL those Sun-birds which are not found in the Ethiopian region form the subject-matter of this paper. The geographical range of the group extends, on the mainland of Asia, from the mouth of the Indus, in the west, to the shores of the Chinese Sea in the east. It includes, besides Ceylon, nearly all, if not all, the islands of the Indo-Malayan and Austro-Malayan subregions. Its most northern and north-western limit is reached in the neighbourhood of Kotegurgh, on the Sutlej, and its most southern in the colony of Queensland. The only large islands within this area where no Sun-birds have as yet been discovered are the Indo-Malayan island of Formosa and the Austro-Malayan islands of New Britain and of the Salomans. Ibis, 1870, p. 19.

The total number of species is about forty, and they are divisible into three natural genera (*Arachnechthra*, *Æthopyga*, *Chalcostetha*) and two smaller groups, among the members of which the affinities are not so evident (*Nectarophila* and *Anthreptes*). *Arachnechthra* is the most largely diffused, contains the greatest number of species, many nearly allied, but well defined, includes the most widely spread of all the eastern Sun-birds, *A. asiatica*, and is generically the most closely connected with the Ethiopian *Nectariniæ*, through *Cinnyris osea*, Bp., a species I am strongly inclined to consider congeneric. Being a dominant group, we find it universal in the distribution of its members. Besides occurring in Ceylon, in India, and in the Indo-Chinese countries, they are spread throughout the two subregions Mr. Wallace has so well defined, the Indo-Malayan and Austro-Malayan, and overlap the range of all the other genera. *Arachnechthra* is represented in Sindh, as well as in New Guinea, in Ceylon, in Queensland, in the Philippines, and in the Sunda Islands. *Æthopyga* is confined to a more restricted range. It is typical of the Indo-Malayan subregion, in which I comprise the lower Himalayan ranges and their Terais, from Western Nipaul to the bend of the Sampo, the mountainous regions to the east and south-eastward of that river, and of India generally, as well as the countries of Assam, Sylhet, Aracan, and Tenasserim. One species has found its way to, or has been left behind in, the highland jungles of Central and Western India; and another is to be met with beyond the Indo-Malayan frontier, in Celebes. In Ceylon the group is unrepresented. *Chalcostetha*, with one exception, is a purely Austro-Malayan genus, the exception, *C. insignis* (Jard.), an Indo-Malayan form, presenting affinities in several directions. The genus *Anthreptes* consists of one species, which perhaps ought not to be separated from *Nectarophila*. It occupies almost the entire Indo-Malayan area, and passes over into Celebes and the Sula Islands. In *Nectarophila*

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* The term "Indian Region" is here used in a purely geographical sense. As a zoogeographical expression, I find difficulty in recognizing its value; for the avifauna of continental Asia, south of the middle range of the Himalayas and of its eastern extensions, may be roughly said to consist of two distinct groups of birds—the one inhabitants of the mountains and their slopes, the other inhabitants of the plains. The first, in whatever part of India proper they occur, are allied to Indo-Malayan forms; the last are closely connected with African species or genera.

Ibis, 1870, p. 20. we find two Indian and two Indo-Malayan forms, the two Indian, *N. zeylonica* and *N. minima* being nearly related, one Indo-Malayan, *N. brasiliana*, showing affinities to *Chalcostetha*, a fourth, *N. sperata*, being perhaps a Philippine representative of *N. zeylonica*, and the fifth, *N. grayi*, representing *N. brasiliana* in the island of Celebes.

The Indo-Malayan subregion is the richest in species; and the greatest number are to be found concentrated in the island of Sumatra, the metropolis also of *Arachnothera*. In the plains and lowlands of India proper only three or four species occur. Ten or eleven specific forms are peculiar to the Australian region, including two Indo-Malayan generic forms, besides which two Indo-Malayan species have partially invaded its frontier. The remaining *Nectariniæ* all belong to the Indo-Malayan subregion, as I extend it. After Sumatra, which possesses nine, comes Java with seven, and Borneo with five or six species; while the Malay peninsula seems equally rich with Sumatra, if authors are exact in the habitats they assign. Ceylon possesses four, the same number and the same species as are found in Southern India. A few species more than I shall enumerate occur in our books, but have not been since recognized. The majority of them are either described from manufactured specimens, or else are badly described species belonging to other groups such as *Trochilus*. One, if not two, seem to be *bonâ fide* species, as, for instance, *Cinnyris leucogaster*, Vieill., from Timor. Some species perhaps still remain to be discovered in the interior of Borneo, in New Guinea and its islands, in the Philippines, and in the mountainous districts of Siam and Cochin China; yet the materials we already possess are sufficiently extensive to permit of generalization, while the nomenclature of the species known is in a state of confusion which will justify, I trust, this imperfect attempt to introduce order.

1. ARACHNECHTHRA ASIATICA (Lath.), Ind. Orn. i. p. 288, no. 22, "India," ♂ adult. (1790), descr. orig.

?*Certhia cirrhata*, Lath., *tom. cit.* p. 299, no. 62, "Bengala" (1790), ex Lath. Synop. Suppl. i. p. 132, no. 57, descr. orig.

Ibis, 1870, p. 21. *C. chrysoptera*, Lath., *tom. cit.* p. 299, no. 64, "Bengala" (1790), ex Lath. Synop. Suppl. i. p. 133, no. 59, descr. orig.

C. mahrattensis, Lath., Ind. Orn. Suppl. p. 36, no. 3, "India" (1801), ex Lath. Synop. ii. p. 164, no. 20, "Mahratta country," descr. orig.

C. saccharina, Shaw, Gen. Zool. viii. i. p. 258 (1811), ex Lath., nec *Cinnyris saccharina*, Steph. *op. cit.* xiv. p. 233.

Purple Indian Creeper, Edwards, Gleanings, ii. p. 116, t. 265, fig. inf., descr. orig.

Violet-breasted Creeper, var. B, Lath., Gen. Hist. iv. p. 248, no. 41, ex Edwards.

Le Souï-manga violet, Audeb. & Vieill.*, Ois. Dor. ii. p. 31, t. ♂ 12, adult. "Malabar," descr. orig.

Cinnyris iodeus, Less., Dict. Sc. Nat. l. p. 24 (1827), ex Audeb. & Vieill. t. 12.

Certhia nitens, Hermann, Obs. Zool. p. 137, ♂ adult. "Tranquebaria" (1804), descr. orig.

Le Souï-manga à cravate bleue, Audeb. & Vieill., Ois. Dor. ii. p. 53, t. 31; patr. non indic. ♂ adolesc.

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* The folio edition is quoted.

Cinnyris cyaneus, Vieill., Enc. Méthod. Orn. p. 599, no. 56 (1823), descr. orig.

C. orientalis, Frankl., P. Z. S. 1831, p. 122, no. 105, ♂ adult. "India centr.," descr. orig.

C. currucaria (L.), Sykes, P. Z. S. 1832, p. 98, no. 133, "Poona."

C. epauletta, Hodgs., Ind. Rev. ii. p. 272, ♂ adult. "Nipaul" (1837), descr. orig.

C. strigula, Hodgs., *l. c.*, "Nipaul" (1837), descr. orig.

Nectarinia mahrattensis (Lath.), Jard., Nat. Lib. xiii. pp. 222, 264, t. 24, ♂ adult. "India."

Arachnechthra currucaria (L.), Cab. Mus. Hein. i. no. 572; Blyth, Ibis, 1866, p. 364, no. 234, nec Linn.

Eastern Creeper, part., Lath., Gen. Hist. iv. p. 232, no. 21, "India."

Hab. Throughout all India, the greater part of the west of Central India, North-west Provinces, Sindh, North Burmah, top of the Neilgherries (Jerdon); Ceylon (Layard); Nipaul (Hodgs.); Kotegurgh in winter, Rampoor (Stoliczka); Maunbhoom (Beavan); Almorah (Brooks); Candeish (Mus. nostr.); Arracan, Calcutta (Blyth)*. Ibis, 1870, p. 22.

The extreme western and eastern limits of this dominant species have not been as yet determined. When not in nuptial dress the males cast off all the black body-feathers, except those on the mesial line. On this subject, which has given rise to much speculation, Mr. Blyth's statement (Journ. Asiat. Soc. Beng. xii. p. 978) that the females, when breeding, assume the full dress of the male, has been denied by Capt. Beavan (Ibis, 1865, p. 416). An individual, either of this species or else of some as yet unrecognized *Arachnechthra*, in the non-breeding plumage just described, formed the subject of Brisson's *Certhia philippensis grisea* (Orn. iii. p. 615, t. xxx. f. 3). It cannot have been an example of *A. lotenia*; for the length of the bill is stated to have been 9 lines. Nor can it have belonged to any of the other *Arachnechthræ*, because the wing-coverts of Brisson's bird were of a polished steel-violet colour. The type specimen, according to Brisson, was sent to M. Aubry from the Philippines. No binomial title has ever been given to Brisson's species; but, most unfortunately, Linnæus added Brisson's title† as a synonym to his *Certhia currucaria*, the name he bestowed on a female or young male of either *Nectarophila zeylonica* or else of *A. asiatica*. Linnæus's type was given to him by Governor Loten, who procured it in Ceylon. Thus runs the diagnosis:—"*C. olivacea, subtus flavescens*," &c.; and then "*subtus a gula ad anum flavescens*" is added. No mention is made of the central dark stripe, nor of metallic wing-coverts. Brisson's description therefore can in no way help us to determine the true *C. currucaria*, L.; yet every author, from Montbeillard down to the present time, has so used it. The word *currucaria* has even come to be an ornithological term; for we find, in the 'Birds of India,' Dr. Jerdon using this phrase (i. p. 372),—"a specimen has the *currucaria* or winter plumage of the last." The Linnæan description agrees best with the female of *N. zeylonica*; and to that species I have referred *C. currucaria*. Gmelin's diagnosis is a reprint of that of Linnæus; but in his additional remarks he copies from Brisson. Latham (Ind. Orn.), under *C. currucaria*, describes nothing but Brisson's bird. Ibis, 1870, p. 23.

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* Cashmere (Huntley).—TWEEDDALE.

† Linnæus omitted the word "*grisea*," which makes Brisson's title read *C. philippensis*, a different species, on which Linnæus founded his *C. philippina*. Linnæus, however, quoted the page, plate, and figure correctly; yet he added the number 2, the number of the figure which represents *C. philippensis* on the same plate with *C. philippensis grisea*. This does not alter the main fact that the Linnæan diagnosis of *C. currucaria* was original.

Certhia asiatica, Lath., was described from a drawing of an Indian example by Major Roberts. I have never met with any Indian *Arachnechthra* in the plumage described under *C. cirrhata*, Lath., stated by Shaw to have been described from one of Lady Impey's drawings. *C. chrysoptera*, Lath., was described from a drawing in which the yellow axillaries were made to look like wing-coverts. *C. strigula*, Hodgs., was founded on a male in postnuptial dress. The dark sanguine pectoral band which marks the lower limit of the metallic pectoral plumage is not always so evident in this Sun-bird as in *A. lotenia*. Reichenbach (Handb. p. 295) separates Tenasserim individuals under Latham's specific name of *mahrattensis*. I am unacquainted with the Tenasserim race; but, if distinct, it must have a new title.

2. ARACHNECHTHRA LOTENIA (L.), S. N. ed. xii. i. p. 188, no. 29, "Zeylona," ♂ adult. (1766), descr. orig.

Certhia polita, Sparrm., Mus. Carls. fasc. iii. t. 59, patr. non indic., ♂ adult. (1788), descr. orig.

?*Avis zeylonica omnicolor*, Seba, Thes. i. p. 110, t. 69.

Certhia omnicolor, Gm., S. N. i. p. 483, no. 53 (1788), ex Seba.

?*Sickle-billed Creeper*, Lath., Gen. Synop. i. pt. ii. p. 705, no. 6, patr. non indic., ex Mus. Brit., descr. orig.

Certhia falcata, Gm., *tom. cit.* p. 470, no. 30 (1788), ex Lath.

Le Sucrier bronzé, Le Vaill., Ois. d'Afr. vi. p. 170, t. 297, f. 1, ♂, "Africa"!

Cinnyris æneus, Vieill. N. Dict. d'Hist. Nat. xxxi. p. 495 (1819), ex Le Vaill. t. 297. f. 1.

Purple Indian Creeper, Edw., Gleanings, ii. p. 116, t. 265, f. sup. ♂ adult., patr. incert.

Ibis, 1870, p. 24. *Certhia purpurata*, Shaw, G. Zool. viii. pt. i. p. 201 (1811), ex Edw. t. 265, f. sup.

Le Souï-manga pourpre, Audeb. & Vieill., Ois. Dor. ii. p. 29, t. 11, ♂ adult., patr. non indic., descr. orig.

Cinnyris purpuratus, Vieill., N. Dict. d'Hist. Nat. xxxi. p. 509 (1819), ex Audeb. & Vieill. t. 11.

?*Le Souï-manga à cravate violette*, Audeb. & Vieill., Ois. Dor. ii. p. 35, t. 15, patr. non indic., ♂ adolesc.

Nectarinia lotenia (L.), Jard., Nat. Lib. xxxvi. pp. 220, 263, t. 23, ♂ adult., "India."

Hab. Malabar, Carnatic, Madras, not observed elsewhere in India (Jerdon); Ceylon (Layard); Deccan (Moore).

Described from a Ceylon specimen obtained by Governor Loten. Linnæus having carelessly added the *Certhia madagascariensis viridis*, Briss., as a synonym, *lotenia* passed until recently as the title of the Madagascar bird, *N. angaladiana* (Shaw)*. Seba can only have meant this Ceylon species. Reichenbach (Handb.) enumerates *Cinnyris æneus*, Vieill., as a good species from South Africa!

A. lotenia, though the type of *Arachnechthra*, Cab., is isolated from the rest of the species of that genus by the great development of the bill, a speciality of structure which may account for its restricted geographical range.

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* The oldest title for this Madagascar species appears to be *Certhia notatus* (!), P. L. S. Müller, Natursyst. Anhang, p. 99, no. 32 (1776), ex Buff. Pl. Enl. 575, f. 2, 3.

3. **Arachnechthra flammaxillaris** (Blyth), Journ. Asiat. Soc. Beng. xiv. p. 557 (1845).

Nectarinia jugularis, Vieillot (Jard.), ap. Blyth, *op. cit.* xii. p. 979, ♂, ♀, "Tenasserim."

Hab. Arracan (Blyth); Moulmein, Kyodan, Salween valley (Walden, P. Z. S. 1866, p. 541); Pinang (Moore, Cat. E. I. C. Mus. ii. no. 1080); Pinang (Mus. nostr.); Siam (Gould, P. Z. S. 1859, p. 151).

The yellow under-plumage is much paler than in *A. pectoralis* (Horsf.). The superciliary streak is very faint in the male, but more prominent in the female. The origin assigned to the specimen marked "China, very rare," in the Derby Museum at Liverpool, and identified with this species by Mr. Blyth (Ibis, 1865, p. 30), must be regarded as doubtful (*conf.* Swinhoe, Ibis, 1866, p. 129). This species has yet to be compared with *A. jugularis*, from the Philippines, but appears to differ at least in possessing a maroon transverse pectoral band.

Ibis, 1870, p. 25.

4. **Arachnechthra rhizophoræ**, Swinhoe, Ann. & Mag. Nat. Hist. 4th ser. iv. p. 436, "Hainan" (1 Dec. 1869).

Closely allied to *A. flammaxillaris*; but possessing a steel-blue frontal patch.

5. **Arachnechthra pectoralis** (Horsf.), Tr. Linn. Soc. xiii. p. 167, ♂, ♀, "Java" (1820), descr. orig.

Nectarinia eximia, Temm., Pl. Col. livr. 23, t. 138. f. 1, 2, ♂, ♀, "Java" (July 26, 1823), descr. orig.; S. Müller & Schl., Verh. Nat. Gesch. Ned. Overz. Bez. Zool. Aves, p. 61, no. 10 [1846*].

Cinnyris ornatus, Less., Dict. Sc. Nat. vol. l. p. 15, ♂, ♀ (1827), ex Temm. t. 138. f. 1, 2.

Cinnyris luteoventer, Less., Tr. p. 298, no. 29, ♂, "Sunda Islands" (1831), descr. orig. (*fide* Pucheran, Rev. Mag. Zool. 1853, p. 488).

Nectarinia pectoralis, Horsf., Jard. Nat. Lib. xxxvi. pp. 226, 266, t. 25. f. 1, ♂, "Java."

Hab. Java, Sumatra, inland as well as on the coast, in enclosures and bushes, never on the mountains (Müller); Nicobars (Blyth, J. A. S. B. 1846, p. 370; Von Pelzeln, Novara, Aves, p. 52); Andamans (Tytler, Ibis, 1867, p. 322); Banjermassing (Motley *fide* Sclater); Lombok, Flores (Wallace); Labuan (Motley & Dillwyn).

Both Blyth and Moore state that this species is found in the Malay Peninsula. I have never seen an authentic Malayan specimen; but I do possess an example of *A. flammaxillaris* (Blyth) from Pinang. Sumatran and Javan individuals in my collection are undistinguishable; those from Flores and Lombok are much larger, the bill being fully ·125 inch and the wing ·25 longer. The female is olive-green above, and sulphur-yellow underneath. The pectoral and abdominal plumage of the male is gamboge-yellow, as in *A. frenata* (Müller). No maroon band separates the steel-blue plastron from the yellow breast. A Lombok male in my collection has a longitudinal metallic blue stripe from the chin to the breast, the forehead and

Ibis, 1870, p. 26.

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* [Mr. G. R. Crotch, whose useful determination of the dates of publication of the several *livraisons* of the 'Planches Coloriées' we have already printed (Ibis, 1868, pp. 499, 500), has kindly informed us that the ornithological plates in the 'Zoologie' of the great Dutch work cited in the text, with the exception of those representing the species of *Pittæ* (published in 1839–40), appeared in 1846; but the descriptions of the species of *Nectariniæ* in the volume containing the 'Land- en Volkenkunde' appeared in 1843. We have accordingly added those dates to Lord Walden's text.—Ed. of 'Ibis.']

rest of the plumage being the same as in the female. Is this the postnuptial attire? The orange axillaries are not to be detected. Reichenbach (Handb. no. 722) erroneously refers this species to Audebert's and Vieillot's 29th plate.

6. ARACHNECHTHRA FRENATA (S. Müller), Verh. Nat. Gesch. Ned. Overz. Bez. Land- en Volkenk. p. 173, note, ♂, ♀, "New Guinea, Menado" [1843]; *op. cit.* Zool. Aves, p. 61, t. 8. f. 1, ♂ adult. [1846].

Nectarinia australis, Gould, P. Z. S. 1850, p. 201, "North Australia."

Hab. Batchian, Ternate, Aru Islands, New Guinea, Islands of Torres Straits (G. R. Gray); Sula Islands, Celebes, Mysol, Moluccas (Wallace); Kaisa Island (Wallace, Mus. nostr. ♀). *N. australis*, North-east coast of Australia (J. Macgillivray).

Differs from *A. pectoralis* (Horsf.) by wanting the metallic blue frontal patch, by having the yellow supercilium and yellow cheeks more strongly marked, and by being larger even than Lombok examples of that species. In all other characters the two species are identical. An example of a female has the under-plumage quite as deep yellow as the male; it likewise possesses a yellow supercilium. After comparing a considerable series of Cape-York examples of *N. australis*, Gould, of both sexes, with authentic individuals of *N. frenata*, Müller, I have come to the conclusion that they are not specifically separable. Mysol, Celebes, Aru, and Sula examples appear to have the tips of the outer rectrices of a deeper yellow than in Cape-York Ibis, 1870, p. 27. individuals. A Sula specimen, in the British Museum, has the bill considerably longer than in those from all other localities. Otherwise it does not differ.

7. ARACHNECHTHRA JUGULARIS (L.), S. N. ed. xii. i. p. 185, no. 7, ♂ adolesc., "*Hab.* in Philippinis" (1766), ex Briss. no. 6.

Certhia philippensis minor, Briss., Ornith. iii. p. 616, no. 6, t. 32. f. 5, ♂ adolesc., "Ins. Philipp.," descr. orig. (1760).

Certhia philippensis olivacea, Briss., *tom. cit.* p. 623, no. 10, t. 34. f. 4, "Ins. Philipp.," ♂ adult., descr. orig. (1760).

Grimpereau olive des Philippines, Buff., Pl. Enl. t. 576. f. 4, ♂ adult., ex Briss. no. 10 (!).

Certhia tricolor, P. L. S. Müller, Natursyst. Anhang, p. 99, no. 31, ♂ adult., "Philippines" (1776), ex Buff. t. 576. f. 4.

Petit Grimpereau des Philippines, Buff., Pl. Enl. t. 576. f. 3, ♂ adolesc., ex Briss. no. 6 (!).

Premier Grimpereau de l'Isle de Luçon, Sonn., Voy. Nouv. Guin. p. 63, t. 30. f. A, ♂ adult., descr. orig. (1776).

Second Grimpereau de l'Isle de Luçon, Sonn., *l. c.* f. B, ♀ vel ♂ juv., descr. orig.

Certhia quadricolor, Scop., Faun. et Fl. Insub. ii. p. 91, no. 67 (1786), ex Sonn. t. 30. f. A, B.

Certhia jugularis, L., part., Gm. S. N. i. p. 474, no. 7 (1788), ex Linn.

Certhia gularis, Sparrm., Mus. Carls. fasc. iv. t. 79, "Insula Martinique" (!), ♂, descr. orig. (1789).

Cœreba gularis (Sparrm.), G. R. Gray, Gen. i. p. 101, sp. 4; Bp., Consp. Av. i. p. 400, sp. 4, "Amer. Merid." (!).

Certhia curucaria, L., var. β, Lath. Ind. Orn. i. p. 286, ♂ adolesc., ex Linn. no. 7.

Cinnyris zeylonicus, Vieill., N. Dict. d'Hist. Nat. xxxi. p. 507, nec Linn.

Le Souï-manga à gorge bleue, Audeb. & Vieill., Ois. Dor. ii. p. 51, t. 29, ♂ adult., "Luçon."

Nectarinia zeylonica, Kuhl, Nomina System., p. 10, no. 576, ex Buff. Pl. Enl. t. 576. f. 4, nec Linn.

Nectarinia jugularis (Vieill.), Jard., Nat. Lib. xiii. p. 228, t. 25. f. 2, ♂ adult., "Philippines," *op. cit.* p. 267.

Certhia philippensis, part., Meyen, Reise, Theil iii. p. 206 (1834). Ibis, 1870, p. 28.

Certhia sperata, L., ♀, Meyen, *tom. cit.* p. 207, ♂ adult., "Manilla," nec Linn.

Certhia philippensis, Briss., *tom. cit.* p. 613, no. 4, t. 30. f. 2, ♀ vel ♂ juv., "Ins. Philipp.," descr. orig. (1760).

Certhia philippina, L., S. N. ed. xii. i. p. 187, no. 21, "Philipp." (1766), ex Briss. no. 4 (?).

Nectarinia pectoralis, Horsf., ap. G. R. Gray, Genera, iii. App. p. 33, ex Buff. Pl. Enl. 576, f. 4, nec Horsf.

Nectarinia jugularis (L.), Von Martens, J. für Orn. 1866, p. 13, no. 49; *Id.* Preuss. Exped. Ost-Asien, p. 189.

Hab. Philippine Islands (Jardine, Von Martens).

Brisson described three species of *Certhia* from the Philippines, which appear to have all belonged to the present species. His "no. 10," collected by Poivre, was founded on the adult of an undoubted Philippine *Nectarinia*, a species since referred by common consent, except Reichenbach's, to *C. jugularis*, L. To this species of Brisson no binomial title has ever been directly given by any author. Linnæus identified it with his own *C. zeylonica*, one of those blunders of his which have since led to so much confusion. Brisson's species "no. 6" was described from a Philippine specimen in Aubry's cabinet; on this Linnæus founded his *C. jugularis.* From Brisson's original account, we may conclude that the type was either a young male of his "no. 10," or else an adult male of that species in postnuptial plumage. Species "no. 4" was described by Brisson from a Philippine individual also in Aubry's collection. Its indentification is rendered uncertain by our being still totally unacquainted with authenticated females of the only two Sun-birds actually known to inhabit the Philippines, *Nectarophila sperata* and *A. jugularis*, or with either of these species in young male plumage before the metallic feathers appear. But if the title *C. philippina*, L., was founded on species "no. 4" of Brisson, it must merge in either *N. sperata* or *A. jugularis*; and therefore the identification is of little importance. I say, IF founded on Brisson's species "no. 4," as about this there is some doubt; for, while Linnæus cites Brisson's diagnosis only, his own contains a character not found in Brisson's account. It is thus expressed:—"*rectricibus intermediis* 2 *longissimis.*" Brisson's words are, "*rectricibus binis intermediis nigris.*" Ibis, 1870, p. 29. Linnæus placed *C. philippina* third in a list of four species, which certainly do all possess elongated central rectrices, *C. pulchella*, *C. famosa*, and *C. violacea.* His diagnosis of all four species begins with the phrase above quoted. They are the only species Linnæus described thus characterized, which looks as if he intentionally grouped the four together on account of this character. Yet the remainder of the diagnosis of *C. philippina* agrees with that of Brisson's "no. 4;" and in the absence of evidence of its being original, it is most likely that Linnæus committed an error when compiling, and that thus the word "*longissimis*" slipped from his pen instead of "*nigris.*" Should it be shown that the Linnæan species did possess elongated middle rectrices, it is clear that it was not an *Arachnechthra*.

Sparrman's plate represents either a male moulting into postnuptial plumage, or else a male assuming full nuptial dress. Prof. Sundevall, in his critical exposition of Sparrman's 'Museum Carlsonianum' (K. Vet. Akad. Handl. 1857), states that the type is a Javan bird; but this must be a mistake, unless it be a young example of *A. pectoralis* (Horsf.) with the frontal patch undeveloped, in which case Horsfield's title would be superseded*. Figure B, in Sonnerat's plate, may have been taken from a female or very young male of *C. sperata*, L. Figures 3 and 4 of the 'Planches Enluminées' no. 576, were perhaps drawn from the original Brissonian type specimens in the collection of De Réaumur and Aubry, or else coloured after Brisson's description. P. L. S. Müller, clearly, describes from figure 4 of the plate just mentioned, although he does not indicate the source whence he obtained his description, beyond giving Buffon's name. Montbeillard's account (Hist. Nat. Ois. v. pp. 506–510) is not original, but copied from Brisson, the dimensions included.

Ibis, 1870, p. 30. According to Sir W. Jardine's description of this species, the only full and trustworthy account that has yet been published, taken from a Philippine specimen obtained by Mr. Cuming, the steel-blue plastron is intensely dark on the centre, but does not extend so far down as in *A. pectoralis* (Horsf.). Meyen, most unaccountably, regarded the Philippine *Arachnechthra* as the female of *C. sperata*, L.

8. ARACHNECHTHRA ZENOBIA (Less.), Voy. Coq. Zool. i. p. 679, no. 104, t. 30. f. 3, ♂ adult., "Soya Mountains, Amboyna" (1826), descr. orig.

Cinnyris clementiæ, Less., Dict. Sc. Nat. 1. p. 18 (1827), ex Less. *l. c.*

Nectarinia zenobia (Less.), S. Müller & Schl., Verh. Nat. Gesch. Ned. Overz. Bez. Zool. Aves, p. 60 [1846].

?*Le Sucrier bronzé*, Le Vaill., Ois. d'Afr. vi. p. 170, t. 297. f. 2, "Africa"!

Chalcostetha zenobia (Less.), Reichenb., Handb. p. 286, no. 663.

Hab. Amboyna, not uncommon among the farm enclosures and sparsely covered heights (Müller); Ké, Bouru, Amboyna, Ceram (Wallace); Dorey, New Guinea, Gilolo (G. R. Gray).

Lesson refers *C. clementiæ* to figure 2 of his plate above cited, which represents *Dicæum erythrothorax* ♀. Bonaparte (Consp. i. p. 409) cites figure 1 of the same plate, which represents *D. erythrothorax* ♂. If the specimen from which Le Vaillant figured his alleged female of *Le Sucrier bronzé* was not manufactured, it must have been one of *A. zenobia*, as suggested by M. J. Verreaux to Prof. Sundevall in his remarks on Le Vaillant's bird (no. 297, K. Vet. Akad. Handl. 1857). A specimen in my possession, obtained from a large collection of birds sent from Queensland, and consisting of authenticated Queensland species, represents a form exactly similar to Ceram examples of *A. zenobia* (Less.), excepting that it is smaller in its principal dimensions, and that it possesses a steel-blue frontal patch. Thus this alleged Queensland bird bears to

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* Do all the Sun-birds of this group, after breeding, doff their metallic feathers, except on the mesial line, in the same manner as *A. asiatica* and *A. lotenia*? If they do, *C. gularis*, Sparrm., may be *A. pectoralis* (Horsf.), in partly postnuptial plumage.

A. zenobia the same relation that *A. pectoralis* (Horsf.) does to *A. frenata* (S. Müller). Can it be the one mentioned by Mr. Ramsay as *Nectarinia australis* (Ibis, 1865, p. 85, no. 32)?

9. Arachnechthra hypogrammica (S. Müller), Verh. Nat. Gesch. Ned. Overz. Land- en Volkenk. p. 173 note, "Sumatra, Borneo" [1843]; *Id.*, *op. cit.* Zool. Aves, p. 63, t. 8. f. 3, ♂ [1846]. Ibis, 1870, p. 31.

Anthreptes macularia, Blyth, J. A. S. B. xi. p. 107, ♀, "Malacca" (1842).
Anthreptes nuchalis, Blyth, *op. cit.* xii. p. 980, ♂, "Singapore" (1843).
Hypogramma nuchalis (Blyth), Reichenb. Handb. p. 314, no. 740.

Hab. Sumatra, Borneo, in the plains as well as in the mountain forests (Müller); Singapore (Blyth); Pinang (Moore).

The metallic plumage is restricted to the nape, lower back, and upper tail-coverts. The Singapore, Pinang, and certainly Bornean habitat of this species require confirmation*.

10. Arachnechthra simplex (S. Müller), Verh. Nat. Gesch. Ned. Overz. Bez. Land- en Volkenk. p. 173 note, ♂ ♀, "Sumatra, Borneo" [1843], descr. orig.; *op. cit.* Zool. Aves, p. 62, t. 8. f. 4, ♂ [1846].

Nectarinia frontalis, Blyth, J. A. S. B. xiv. p. 558 ♂, "Singapore" (1845), descr. orig.
Arachnoraphis simplex (Müller), Reichenb., Handb. no 736.

Hab. Sumatra (Müller); Singapore, Malayan Peninsula (Blyth, Cat. Mus. Calc. no. 1362).

In the zoological part of the Dutch work cited, Müller says that this Sun-bird is only found in Sumatra, having previously stated that it also inhabited Borneo. For its Malaccan habitat we have Mr. Blyth's authority. I have never met with a specimen from the Malay Peninsula. It is possible that Mr. Blyth's Singapore type came from Sumatra. This species forms another most interesting link in the chain of affinities which unite the members of the natural group *Arachnechthra*. In it the metallic plumage is confined to the frontal region, the rest of the plumage being soberly coloured as in the female.

11. †Arachnechthra? flavigastra (Gould), P. Z. S. 1843, p. 109, "New Ireland;" *Id.* Voy. Sulphur, Zool. p. 43, t. 24.

Arachnoraphis flaviventris, part., Reichenb., Handb. p. 313, no. 735.

"A single specimen only was obtained;" yet two figures are given in the plate cited! The upper figure agrees with the diagnosis. The lower differs by having the rump yellow. It is not stated whence the subject of the lower figure was procured. This species does not appear to have been since obtained. The figure resembles a female of *A. frenata* (Müll.). Reichenbach (*l. c.*) has mixed up *Arachnothera flavigastra* (Eyton, P. Z. S. 1839, p. 105), from Malacca, with the New-Ireland bird, and united them under the title cited! Ibis, 1870, p. 32.

12. Arachnechthra solaris (Temm.), Pl. Col. livr. 58, t. 347. f. 3, "Amboyna," ♂, May 21,

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* Since obtained by me from Borneo and Malacca.—Tweeddale.

† *Conf.* Less. & Garn. Voy. Coq. Zool. i. p. 344, note [1], where the male is described.—Tweeddale.

1825; S. Müller & Schl., Verh. Nat. Gesch. Ned. Overz. Bez. Zool. Aves, p. 60, t. 8. f. 5, ♀ [1846].

Hab. Timor, Poeloe Samauw (Müller); Timor, Flores (Wallace).

Müller (*l. c.*) has shown that Temminck was in error when he stated that his type specimens came from Amboyna. This species is a somewhat isolated form. The metallic part of its plumage is green, as in *N. osea*, and the flame-colour of the axillaries is diffused over the entire under surface.

13. ÆTHOPYGA MILES (Hodgs.), Ind. Rev. ii. p. 273, descr. orig., ♂, ♀, et juv., "Nipaul" (1837).

Certhia goalpariensis, Royle, Ill. Him. Bot. ii. t. 7. f. 1, ♂ adult., "Deyra Doon" (1839).

Cinnyris labecula, McClell., P. Z. S. 1839, p. 167, ♂ adult., "Assam," descr. orig.

Nectarinia goalparienis, Royle, Jard., Nat. Lib. xxxvi. pp. 230, 267, t. 27, ♂ adult., "Nipaul;" Blyth, *partim*, Cat. Mus. Calc. no. 1351.

Goulpourah Creeper, Lath., Gen. Hist. iv. p. 221, t. 74, "Goulpourah," ♂ adult.

McClelland's title is here added as a synonym on the authority both of Blyth (*l. c.*) and of Moore (Cat. E. I. Mus. ii. p. 732); yet no mention is made in McClelland's diagnosis of the yellow rump. Moulmein and Tippera examples in my collection are smaller than those from the Deyra-Doon and from Nipaul. From Tippera, wing 2·12, tail 2·72, bill ·57; from the Deyra-Doon, wing 2·18, tail 3·18, bill ·6. The Moulmein specimen is still smaller. The middle pair of rectrices are steel-blue, not steel-green. The lower back of a much deeper yellow. In both, the metallic cap is confined to the crown, and does not descend the nape as in the Deyra-Doon bird. The geographical range of *Æ. miles* cannot be defined with accuracy until the exact limits of *Æ. vigorsi* are ascertained, the specific value of *Æ. seheriæ* determined, and the variation that *Æ. miles* itself undergoes in the widely-separated localities it is said to inhabit have been investigated.

Ibis, 1870, p. 33.

14. ÆTHOPYGA VIGORSI (Sykes), P. Z. S. 1832, p. 98, no. 134, ♂ adult., "Dukhun;" Gould, Birds of Asia, pl. 26.

Cinnyris concolor, Sykes, *l. c.* no 137, ♀.

? *Nectarinia seheriæ*, Tickell, Journ. Asiat. Soc. Beng. ii. p. 577, ♂ adult., "Seheria" (1833), descr. orig.

Hab. Inhabits only the lofty trees of the dense woods of the Ghauts (Sykes); Bustar country (Jerdon).

Dr. Jerdon suggests that the Ghauts referred to by Colonel Sykes are the Mahabaleshwur Hills. It is a most rare bird in collections, to be distinguished (*fide* Moore, *op. cit.*) from the last "by the small crescent of brilliant metallic blue on the ear-coverts." Mr. Moore states as a differential character "the light yellow striæ which intersect the scarlet of the breast;" but whether they be found in fully adult birds is an open question. Until examples from Borabhoom and its vicinity are examined, it cannot be decided whether the type of *N. seheriæ* represents a species distinct from *Æ. miles* or from *Æ. vigorsi.* It must be rare in that part of India; for Captain Beavan failed to obtain or even see it.

15. ÆTHOPYGA TEMMINCKI (S. Müller), Verh. Nat. Gesch. Ned. Overz. Bez. Land- en Volkenk. p. 173, note, ♂, "Sumatra" [1843]; *op. cit.* Zool. Aves, p. 56, t. 8. f. 2 [1846].

Hab. In the dense forest on the mountains of Singalang, and in those of the eastern mountain ranges of Sumatra (Müller).

To be distinguished from all other kinds by the metallic violet circlet on the head, shaped somewhat like a horse-shoe. A lovely species.

16. ÆTHOPYGA SIPARAJA (Raffles), Tr. Linn. Soc. xiii. p. 299, ♂ adult., "Sumatra" (1822), descr. orig.

Nectarinia mystacalis, Temm., Pl. Col. livr. xxi. t. 126. f. 3, ♂ adult., "Java" (Aug. 2, 1823); S. Müller & Schl., Verh. Nat. Gesch. Ned. Overz. Bez. Zool. Aves, p. 55 t. 9. f. 1, ♀, nest and egg. Ibis, 1870, p. 34.

? *Nectarinia lathami*, Jard., *op. cit.* pp. 233, 268, ♂ adult., "India" (1842).

? *Æthopyga eupogon*, Cab., Mus. Hein. i. p. 103, note, "Malacca, Borneo" (1850–51).

Hab. Sumatra, Java, Borneo (Müller); Pinang (Moore); Banjermassing (Sclater).

The specific title given by Sir S. Raffles is the name, according to him, by which this species is known to the Malays; it means "King-Sucker" (*conf.* Müller, *l. c.* in note). No mention is made by either Sir Stamford or Temminck of its possessing a yellow lower-back, nor is this feature indicated in Temminck's plate; yet two Javan examples I have examined have the uropygium yellow as in the rest of the genus. Whether identically the same species inhabits all the localities above cited has yet to be shown. Banjermassing individuals are said to be doubtfully distinct (Sclater, P. Z. S. 1863, p. 220). Dr. Cabanis unites Bornean and Malaccan examples under the title quoted, and separates them from Sumatran individuals of *Æ. siparaja.* Banjermassing specimens which I have compared with Javan do not exhibit the differences on which Dr. Cabanis (*l. c.*) relies:—"nicht nur die Mitte der Stirn und des Scheitels, sondern die ganze Stirn und darüber hinaus violett blau glänzend." The types may have come from some other part of Borneo. Malaccan examples I have not seen. Dr. Salvadori (Ibis, 1865, p. 549) states that both *Æ. siparaja* and *Æ. eupogon* want the yellow rump, but does not state his authority.

17. ÆTHOPYGA CHALCOPOGON, Reich., Handb. Spec. Orn. part xi. p. 303, no. 708, t. 586. f. 3982–83, "Borneo" (Nov. 1, 1853).

Said, by its describer, to be closely allied to *Æ. goalpariensis*, i. e. *Æ. miles.* "The cap metallic green, but restricted to the fore part of the head. Upper tail-coverts and moustache glistening steel-blue. Middle tail-feathers edged with blue." The part of Borneo whence it came is not mentioned*.

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* Collected by V. Kessell at Banjermassing.—TWEEDDALE.

Ibis, 1870, p. 35. 18. Æthopyga flavostriata (Wallace), P. Z. S. 1865 (June 13), p. 478, t. 29. f. 2, ♂ adult. (?), Menado (Celebes).

? *Æthopyga lodoisia*, Salvadori, Ibis, 1865 (October), p. 548, patr. incert.

The yellow striæ on the throat-feathers of this species appear to exist in fully-plumaged males, and, while being a sign of adolescence in *Æ. miles*, accompany maturity in *Æ. flavostriata*. I add Dr. Salvadori's title, as a synonym, with some doubt, not having had an opportunity of examining his type. The *Æthopyga* (sp. non desc.) from Menado, in M. Verreaux's collection, with the abdomen almost black, mentioned by Dr. Salvadori (*l. c.*), cannot well be any thing else than *Æ. flavostriata*.

19. Æthopyga dabrii (J. Verr.), Rev. et Mag. Zool. 1867 (May), p. 173, t. 15, ♂ adult., "découverte dans le nord de la Chine."

Crown, chin, throat, spot on the parotic region, and a detached stripe on each side of the lower part of the neck metallic violet. Remainder of head, neck, back, and scapulars deep red, becoming lighter on the breast at its lower part, where it merges into a yellow tint, which colours the rest of the under parts as well as the uropygium. Tail long, tipped with whitish, most apparent on the underside. Middle rectrices twice the length of the others, and, with the upper tail-coverts, metallic steel-colour. M. Verreaux observes that the whitish edgings of the outer rectrices distinguish this bird from all the known species of *Æthopyga*. There must be some mistake about its habitat; Cochin China is probably intended. Mr. Anderson has lately obtained this species in Yunan.

20. Æthopyga gouldiæ (Vigors), P. Z. S. 1831, p. 44, ♂ adult., "Himalayas."

Cinnyris gouldiæ, Vigors, Gould, Cent. Him. Birds, t. 56.

Hab. Himalayas, from Kumaon to Sikim, Assam, Sylhet, Arracan (Jerdon); Kotegurgh in winter, Tranda, Gaora (Stoliczka).

21. Æthopyga nipalensis (Hodgs.), Ind. Rev. ii. p. 273, ♂, ♀, "Nipaul" (1837).

Ibis, 1870, p. 36. *Nectarinia nipalensis*, Hodgs., Jard. Nat. Lib. xxxvi. pp. 236, 268, t. 27.

Hab. Eastern Himalaya from Nipaul to Bootan; common in Khasia Hills and at Darjeeling (Jerdon, B. Ind. i. p. 366).

22. Æthopyga horsfieldi (Blyth), J. A. S. B. xi. p. 107 (1842); descr. *op. cit.* xii. p. 975, ♂, "Himalayas" (1843).

Hab. North-western Himalayas (Jerdon); Mussoorie (Blyth, *op. cit.* xvi. p. 472).

Differs chiefly from *Æ. nipalensis*, by having the back green instead of red, a somewhat doubtful character. Mr. Gould (Birds of Asia, pt. 2, 1850) is of opinion that the green plumage of the back indicates immaturity (*cf.* Jerd. B. Ind. i. p. 367).

23. Æthopyga ignicauda (Hodgs.), Ind. Rev. ii. p. 273, ♂, ♀, "Nipaul" (1837), descr. orig.

Cinnyris rubricaudata, Blyth, J. A. S. B. xi. p. 192, ♂ adult., Darjeeling (1842); descr. *op. cit.* xii. p. 972 (1843).

Nectarinia phœnicura, Jard., Nat. Lib. xxxvi. pp. 242, 270, t. 29, ♂, ♀, "Sylhet" (1842), desc. orig.

Cinnyris epimecurus, Hodgs., J. E. Gray, Zool. Misc. p. 82, ♂, Nipaul, (1844), desc. nulla.

Hab. Eastern Himalayas from Nipaul to Bootan, Assam, Sylhet. Spring visitant at Darjeeling (Jerdon).

Hodgson (*l. c.*) states that this, together with the other Nipaulese Sun-birds, is not migratory. Of all the *Æthopygæ*, the tail in this species attains the most extended dimensions, measuring in some individuals nearly five inches.

24. Æthopyga saturata (Hodgs.), Ind. Rev. ii. p. 273, ♂, "Nipaul" (1837), descr. orig.

Cinnyris assamensis, M'Clelland, P. Z. S. 1839, p. 167, ♂, "Assam," descr. orig.

Nectarinia hodgsoni, Jard., Nat. Lib. xxxvi. pp. 241, 269, t. 29, ♂, "Nipaul" (1842), descr. orig.

Hab. South-eastern Himalayas, Assam, Sikim (Jerdon).

25. Æthopyga christinæ, Swinhoe, Ann. & Mag. Nat. Hist. 4th ser. iv. p. 436, "Mountainous regions of Central Hainan" (1 Dec. 1869). (Plate I. fig. 1, *in orig.*)

One of the most interesting of Mr. Swinhoe's recent discoveries in the Island of Hainan. A representative of *Æ. saturata*, but perfectly distinct. Ibis, 1870. p. 37.

26. Æthopyga eximia (Horsf.), Tr. Linn. Soc. xiii. p. 108, ♂, adult., "Java" (1820).

Nectarinia kuhli, Temm. Pl. Col. livr. 63, t. 376. f. 1, 2, ♂, ♀, "Java" (Nov. 12, 1825).

Hab. Java (S. Müller).

This lovely bird appears to be peculiar to Java. It is an *Æthopyga*, but what I may term a transitional form. The prevailing character of the plumage in the male is what is found existing in the females only of the other species. The chin, throat, and upper breast alone are red. The metallic violet markings are confined to a throat-mark shaped like the letter V reversed. It possesses the characteristic yellow lower-back of the group, and the metallic occipital cap. The remainder of the plumage, including the wing-coverts, is dark olive. S. Müller gives an interesting account of this species, which lives at the height of from 8000 to 9000 feet among the mountains and in the extinct craters of Java. It breeds there during May and June, and afterwards descends to the coffee-plantations, and is then to be found in the enclosures of the inhabited districts.

27. Nectarophila* zeylonica (L.), S. N. ed. 12, i. p. 188, no. 23, ♂ adult., "Zeylona" (1766), descr. orig.

Certhia lepida, Sparrm., Mus. Carls. fasc. ii. t. 35, ♂ adult., patr. non indicata (1787), descr. orig.

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* Reichenbach (Nat. Syst. Suppl.) gives this generic title to the species of this group—*Leptocoma*, Cab. (1850–51) (*fide* Reichenb.), having been previously employed in botany. *C. brasiliana*, Gm., is the type. Links are wanting between it and *N. sperata*, and between *N. sperata* and *N. zeylonica* and *N. minima*.

Le Sucrion, Le Vaill., Ois. d'Afr. vi. p. 172, t. 298. f. 1. (avis composita). "Africa"!

Cinnyris pusillus, Vieill., N. Dict. d'Hist. Nat. xxxi. p. 513 (1819), ex. Le Vaill. t. 298. f. 1.

Certhia zeylonica, L., Lath., Ind. Orn. i. p. 285, no. 13.

? *Ceylonese Creeper*, var. A, Lath., Gen. Synop. i. 2. p. 713, patr. non indic., "Mus. Brit.," ♂ juv. ?, descr. orig.

Ibis, 1870, p. 38. *Certhia zeylonica*, L., var. β, Gm., S. N. i. p. 482, no. 29, ex Lath.

Certhia dubia, Shaw, Gen. Zool. viii. 1. p. 204 (1811), ex Lath.

Le Souï-manga brun et blanc, Audeb. & Vieill., Ois. Dor. ii. p. 118, t. 81, "Mus. Brit.," ex Lath.

Cinnyris nigroalbus, Less., Dict. Sc. Nat. vol. l. p. 6 (1827), ex Audeb. & Vieill. t. 81.

Le Souï-manga à ceinture marron, Audeb. & Vieill., Ois. Dor. ii. p. 37, t. 16, patr. non indic., ♂ adult., descr. orig.

Cinnyris sola, Vieill., N. Dict. d'Hist. Nat. xxxi. p. 512, "Pondicherry," ♂ adult. (1819), desc. orig. (*cf.* Pucheran, Rev. et Mag. Zool. 1853, p. 483).

Cinnyris solaris, Less., Tr. p. 297, no. 28, ♂, ♀, "Pondicherry, Bengal" (1831), descr. orig. (nec *C. solaris*, Temm.); Less. *loc. cit.* no. 25 (*cf.* Puch. *tom. cit.* p. 488).

Cinnyris lepida (Sparrm.), Sykes, P. Z. S. 1832, p. 98, no. 132, "Dukhun."

Nectarinia zeylonica (L.), Jard., Nat. Lib. xxxvi. pp. 213, 261, t. 20, ♂ adult., "India."

? *Certhia currucaria*, L., S. N. ed. 12, i. p. 185, no. 6 (syn. excl.), ♂, "Zeylona" (1766), descr. orig.

Certhia flaviventris, Herm., Obs. Zool. p. 136, ♂ adult., "Tranquebaria" (1804), descr. orig.

? *Certhia citrinella*, Herm., *op. cit.* p. 137, "Tranquebaria," av. juv. (1804), descr. orig.

? *Anthreptes sperata* (L.), Licht. Nomencl. Av. Mus. Berol. p. 56, "Bengalen."

Hab. India from the extreme south to Bengal, not reaching the Himalayas. Rare in Central India. Not found in North-western Provinces. Extends through Dacca into Assam (Jerdon); Southern Ceylon (Layard); Bombay (Swinhoe).

Le Sucrion, Le Vaill., seems to have been composed of an example of *N. zeylonica* and the breast of *Arachnechthra solaris* (Temm.). We have no means whereby we can positively identify Latham's *Ceylonese Creeper*, var. A. Audebert's plate 81 was apparently drawn from Latham's type. *C. flaviventris*, Herm., is too shortly described to enable us to say, with our imperfect
Ibis, 1870, p. 39. knowledge of the constant characters which distinguish the females and young males of the two species, whether it belongs to *N. zeylonica* or *A. asiatica*. And the same observation will apply to *C. currucaria*, L. Old males from Bengal and Maunbhoon are larger than those from Malabar. These again are larger than those from Ceylon. In the northern race the metallic hood seems to descend lower down the nape. In the colouring of the plumage I can discover no difference. A specimen in the British Museum, presented by Mr. Swinhoe, but from an unknown locality, is not only a larger bird, but differs from the examples already mentioned by having the crown of the head and shoulder-coverts coppery green, instead of emerald-green, the uropygium and upper tail-coverts brilliant blue-violet and not bright red-violet. Chin and throat-patch dark blue-violet, and not bright ruby-violet. These colours were contrasted during bright sunlight.

The comparative dimensions are here given:—

	Rost. a nar.	Al.	Caud.
N. zeylonica (L.), Ceylon	·5	2·	1·37
„ „ Maunbhoom . . .	·56	2·12	1·37
„ „ Brit. Mus.	·56	2·31	1·75

I refrain from giving this form a title until I have been able to examine more examples. Is it the "variety" mentioned by Sir W. Jardine (*l. c.*) as being preserved in Mr. Strickland's collection *? Perhaps the British-Museum specimen came from Bombay, where Mr. Swinhoe mentions having observed *N. zeylonica* (Ibis, 1864, p. 416). The characters which denote the female and distinguish her from the young male have not been, as yet, absolutely defined, Information on this point, based on dissection, is most desirable; for the affinities of the Sun-birds can be best determined by a study of the females and young. Two distinct phases of plumage are observable in the young or else in the female of this species. The first, in which the general colour above is ashy-brown and underneath bright yellow, but with the chin, throat, and upper breast (that is, the violet and maroon region in the old male) albescent, defining that part from the remainder of the under surface. In this stage the occipital feathers have slightly darker centres, the upper tail-coverts are generally found passing into metallic black, and the rump-feathers sometimes with reddish tips. This phase, I surmise, represents the male of the first year. But it may be also found in the female, to which Dr. Jerdon says it belongs. In the second phase the entire upper plumage is greenish or olive-brown, the lower uniform light yellow. This I suspect to be the female livery. In both, the outer edgings of the quills above are ferruginous brown—a characteristic alone sufficient to distinguish this species from the females or young of all the even-tailed Asiatic Sun-birds I have examined. It may, perhaps, be found in *N. minima* (Sykes). The second phase, which I attribute to the female, agrees perfectly with the Linnæan diagnosis of *C. currucaria*.

Ibis, 1870, p. 40.

28. Nectarophila minima (Sykes), P. Z. S. 1832, p. 98, ♂, ♀, "Deccan."

Nectarinia minuta (Sykes) (*errore*), Jard., Nat. Lib. xxxvi. pp. 224, 265, tab. in titul., "Malabar," ♂, ♀ (?).

Hab. Deccan, "only in the dense woods of the Ghauts" (Sykes); Malabar; "high forest jungle, west coast, from about lat. 18° N. to Travancore, slopes of Neilgherries up to 3000 feet" (Jerdon); Northern Ceylon (Layard, Ann. Nat. Hist. 2 ser., xii. p. 175).

This is an exceedingly rare species in collections. Two of Colonel Sykes's types are preserved in the British, and one in the East-India Museum. It is well marked, and, though closely allied to *N. zeylonica*, differs by being smaller than even Ceylon examples of that species (bill ·43, wing 1·81, tail 1·25), by the upper and non-metallic plumage of the breast being deep red, and by Ibis, 1870, p. 41. having the metallic feathers of the lower-back and of the upper tail-coverts of a lighter shade of red-violet. It appears likewise not to have metallic shoulder-coverts.

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* [The Strickland collection contains two male specimens which seem to belong to different species, though each is marked in Mr. Strickland's handwriting "*zeylonica*"; the only other information afforded by the labels is in both cases "India. Mr. Askew, 1839." In one of these the top of the head, seen against the light, is dark green, but crimson-violet from the light; the throat crimson-violet against the light, but from the light bluish-violet; the rump and upper tail-coverts, seen from the light, are bluish-violet, but against the light the former is crimson-violet. In the other example the top of the head is bright green in both lights; the throat, rump, and upper tail-coverts coppery-violet against the light, but from it crimson-violet. Both specimens are otherwise alike; they are unfortunately in bad condition, the first having lost its bill, and the last its feet.—Ed. of 'Ibis.']

If we may rely upon the authorities, the female retains a considerable resemblance to the male. According to Colonel Sykes, the female is uniform brown, with a patch of brick-red on the rump and upper tail-coverts, and the yellow below fainter than in the male. Sir William Jardine describes and figures the female above without a coronal patch; head, neck, and mantle yellowish oil-green; the lesser coverts, lower-back, and upper tail-coverts of the same colour as the male, but with a slight tinge of varying bluish purple; wings and tail umber-brown; lower parts entirely dark primrose-yellow. Dr. Jerdon says, "the female is olive-brown above, with a red rump, and pale yellow beneath." Nothing analogous is to be met with in any other of the Eastern Sun-birds; and considering how seldom this species has been observed, may we not conjecture that young males have been mistaken for females?

29. NECTAROPHILA BRASILIANA (Gm.), S. N. i. p. 474, no. 41. "Brasilia"! ♂ adult. (1788), ex Briss. no. 30.

Le Grimpereau violet du Brésil, Briss. Orn. iii. p. 661, no. 30, "Brasilia," ♂ adult., descr. orig.

Nectarinia hasseltii, Temm., Pl. Col. livr. 63, t. 376. f. 3, ♂ adult., "Java" (Nov. 12, 1825), descr. orig.; S. Müller & Schl., Verh. Nat. Gesch. Ned. Overz. Bez. Zool. Aves, p. 59, t. 10. f. 5, ♀; Jard., Nat. Lib. xxxvi. pp. 218, 262, t. 12, ♂ adult., "East-India Islands."

Certhia sperata, L., Raffles, Tr. Linn. Soc. xiii. p. 298, "Sumatra."

Cinnyris ruber, Less., Tr. d'Orn. p. 296, no. 23, ♂ adult., "patr. incert." (1831), descr. orig. (*fide* Pucheran, Rev. et Mag. Zool. 1853, p. 487).

Nectarinia phayrei, Blyth, J. A. S. B. xii. p. 1008, ♀ adult., "Arracan" (1843), descr. orig.

Senegal Creeper, var. A, Lath., Gen. Hist. iv. p. 237. no. 25, "Malacca."

Hab. Java, Sumatra, Borneo (S. Müller); Pinang, Malacca, Arracan (Moore); Moulmein (Beavan); Banjermassing (Sclater).

Ibis, 1870, p. 42. Mr. Moore has a remark on Müller's figure of the female of this species (Cat. Mus. E. I. C. ii. p. 740). Lesson's type specimen existed in 1853 in the Paris Museum, and (*fide* Pucheran, *l. c.*) was brought from Sumatra by Duvaucel in September 1821. Thus the Sumatran, Javan, and Arracanese race have each had a separate title conferred on them. They do not differ specifically.

30. NECTAROPHILA GRAYI (Wallace), P. Z. S. 1865, p. 479, "Menado." (Plate I. fig. 2, *in orig.*)

A representative form of *N. brasiliana*, apparently restricted to Celebes. Of the five species of *Nectariniæ* recorded as inhabiting that interesting island, three belong to Indo-Malayan genera, one to the widely-spread genus *Arachnechthra*, and one to the Austro-Malayan group *Chalcostetha*. Three species are peculiar to Celebes, two of which, *Æ. flavostriata* and *N. grayi*, possess Indo-Malayan, and the other, *Chalcostetha porphyrolæma*, Austro-Malayan affinities. One of the foreign species, *A. malaccensis*, is an Indo-Malayan form; the other, *A. frenata*, is a widely-diffused Australian species.

Mr. Wallace possesses an example of what appears to be the young male of a sixth species from Celebes. It has the edgings of the quill-feathers and most part of the upper surface of the rectrices dull red.

31. **NECTAROPHILA SPERATA** (L.), S. N. ed. xii. p. 186, no. 13, "Philippines" (1766), ex Briss. no. 27.

Certhia philippensis purpurea, Briss., Orn. iii. p. 655, no. 27, t. 31. f. 2 ♂, 3 ♀, "Ins. Philippens." (1760), descr. orig.

Grimpereau des Philippines, Buff., Pl. Enl. t. 246. f. 1 ♂, 2 ♀.

Certhia jugularis, P. L. S. Müller, Natursyst. Anhang, p. 98, no. 29 (1776), ex Buff.

Troisième Grimpereau de l'Isle de Luçon, Sonn., Voy. Nouv. Guin. p. 63. t. 30, f. D, ♂ adult., descr. orig.

Certhia chalybea, Scop., Fl. et Faun. Insub. ii. p. 91, no. 68 (1786), ex Sonn. t. 30. f. D.

Certhia sperata, L., var. *β*, Gm., S. N. i. p. 477, no. 13, ex Sonn.; var. *γ*, Lath., Ind. Orn. i. p. 283, no. 8, ex Gm.

Le Souï-manga à gorge violette, Audeb. & Vieill., Ois. Dor. ii. p. 56, t. 32, ♂ adult., ex Sonn. Ibis, 1870, p. 43.

Certhia affinis, Shaw, Gen. Zool. viii. i. p. 208 (1811), ex Audeb. & Vieill. t. 32.

Nectarinia coccinigastra, Temm., Pl. Col. livr. 65, t. 388. f. 3, ♀ adult., "Manilla" (May 27, 1826), descr. orig.

Nectarinia philippensis (part.), Meyen, Reise, Zool. p. 206 (1834).

Certhia zeylonica, L., ap. Meyen, *l. c.* ♂ adult., "Manilla," nec L.

Nectarinia affinis (Shaw), Jard., Nat. Lib. xxxvi. pp. 216, 262, t. 20, ♂ adult., "patr. incert."

Anthreptes expectata, Licht., Nomencl. Av. Mus. Berol. p. 56, "Manilla" (1854).

Nectarinia coccineogastra, Temm., Von Martens, J. für Orn. 1866, p. 12, no. 48; *Id.*, Preuss. Exped. Ost-Asien, p. 189.

Hab. Luzon (Von Martens).

Specimens, of both sexes, brought to France from the Philippines by Poivre, enabled Brisson to describe the species which Linnæus named *Certhia sperata*. Brisson described the crown as of a metallic-violet colour; Sonnerat, from specimens obtained by himself, recorded that part as being metallic-green; and Temminck used expressions, when describing the varying hues of this beautiful species, which convey a meaning slightly differing from that transmitted by the two older authors. Setting aside the extreme improbability of three closely allied yet distinct species of this isolated form co-existing at Manilla, it seems pretty clear that the slight discrepancies to be found on comparing the original descriptions result from the difficulty of noting the iridescent hues of metallic plumage. Violet and green are frequently interchangeable, according to the light, as, for instance, in the dorsal plumage of *A. malaccensis* (Scop.).

Reichenbach, however, enumerates *C. sperata*, L., *C. affinis*, Shaw, and *N. coccinigastra*, Temm., as three distinct species (Handb. Spec. Orn. nos. 651, 652, 653)*.

Ibis, 1870, p. 44. 32. CHALCOSTETHA INSIGNIS (Jard.), Nat. Lib. xxxvi. p. 274 (1842), ex Temm. Pl. Col. 138, f. 3.

Nectarinia pectoralis, Temm., Pl. Col. livr. 23. t. 138. f. 3, "Java," ♂ adult., descr. orig. (July 26, 1823); Müller & Schl., Verh. Nat. Gesch. Ned. Overz. Bez. Zool. Aves, p. 57, t. 9. f. 2, ♀, nest and egg.

Nectarinia calcostetha (Jard.), *op. cit.* p. 263, "E. Ind. Islands?," ♂, descr. orig. (1842).

Cinnyris macklotii, Bp., Consp. Av. i. p. 408, sp. 44, p. 850 (1850), ex Temm., t. 258. f. 3.

Chalcostetha pectoralis (Temm.), Cab. Mus. Hein. i. p. 103.

Nectarinia insignis, Gould, P. Z. S. 1865, p. 663, ♂, "Penang," descr. orig.

Nectarinia eximia, Horsf., apud Temminck, *l. c.* (nec Horsf.).

Hab. Sumatra, Java (Müller); Pinang (Gould); Malacca (Mus. nostr.); Siam? (Mus. Brit.); Banjermassing (Sclater).

First described and figured by Temminck (1823) under the title of *N. pectoralis*, already employed by Horsfield for another species. Sir W. Jardine (1842) therefore proposed for it the title of *N. insignis*, having in the same work (Nat. Lib.) already described an actual example of Temminck's species under the title of *N. calcostetha* (*cf.* J. A. S. B. 1843, p. 969, note). This specific title Dr. Cabanis (1850–51) raised to generic rank and restored Temminck's original specific name of *pectoralis*. Bonaparte (1850), however, rejected Temminck's designation and proposed that of *macklotii*. Finally Mr. Gould (1865) described a Penang example as new under one of the titles already published by Sir W. Jardine. As Dr. Cabanis seems to be justified in generically separating the group to which this Sun-bird most nearly belongs, the name of *insignis*, Jard., takes precedence. S. Müller (*l. c.*) gives a most interesting account of the habits. We have no positive proof that the alleged Malaccan examples are not in truth of Sumatran origin.

This species forms a link between *Arachnechthra* and the Austro-Malayan species which constitute the genus *Chalcostetha*, Cab. Though the type of Dr. Cabanis's genus, it is, strictly speaking, an aberrant form of that group, more nearly affined, however, to *C. aspasia*, Ibis, 1870, p. 45. *C. proserpina*, and others, than to *A. asiatica* and its congeners. The yellow axillaries are the principal character which indicates its affinity to *Arachnechthra*.

Certhia manillensis, Gm. (S. N. i. p. 471. no. 32, the diagnosis of which is taken, but unacknowledged, from Montbeillard, Hist. Nat. Ois. v. p. 496, ex Luçon), belongs either to this species or else to one not since recognized from Luzon. The French author having described *Le Souï-manga* (*C. souimanga*, Gm.), remarks:—"On doit rapporter à cette espèce, comme variété très-prochaine, le Souï-manga de d'isle de Luçon que j'ai vu dans le beau cabinet de M. Mauduit, et qui a la gorge, le cou et la poitrine couleur d'acier poli, avec des reflets verts, bleus, violets, etc., et plusieurs colliers que le jeu brillant de ces reflets paroît multiplier encore; il semble cependant que l'on en distingue quatre plus constans, l'inférieur violet-noirâtre, le suivant marron, puis un brun, et enfin un jaune; il y a deux taches de cette couleur au-dessous des épaules; le reste du dessous du corps, gris-olivâtre; le dessus du corps, vert-foncé avec des reflets bleus, violets, etc., les pennes des ailes, les pennes et couvertures supérieures de la queue, d'un brun plus ou moins foncé, avec un œil verdâtre." Were it not for the alleged Philippine origin, I should not hesitate to refer *C. insignis* (Jard.) to *C. manillensis*, Gm.

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* *Certhia aurantia*, Gm. (ex Lath. G. Synop. i. ii. p. 724, no. 38), brought from Africa by Smeathman, and suggested by Shaw (Gen. Zool. vii. p. 207) to be a variety of *C. sperata*, L., can be nothing else than *Certhia crocata*, Shaw & Nodder (Vivar. Nat. vi. t. 210), i. e. *C. violacea*, L.

33. Chalcostetha aspasia (Less.), Voy. Coq. Zool. i. p. 676, no. 100, t. 30. f. 4, "Dorey" (New Guinea), ♂ adult. (1826).

Cinnyris sericeus, Less., Dict. Sc. Nat. l. p. 21, "Dorey" (1827), ex Less. Voy. Coq. t. 30. f. 3 (*errore*).

Hermotimia aspasia (Less.), Reichenb. Handb. p. 285, no. 661.

Hab. Celebes, Amboyna, Banda Islands, New Guinea (S. Müller); New Guinea, Waigiou, Mysol, Aru (Wallace, *fide* Gray).

Müller mentions having obtained this species at Macassar (*op. cit.* Aves, p. 58). I do not find it given from Celebes in any of Mr. Wallace's lists. It is therefore probable that Müller did not notice the characters discriminated by Mr. Wallace in the nearly allied species *C. porphyrolæma.* Again, by including Amboyna within its range, Müller seems not to have recognized the specific differences of *C. aspasioides* (G. R. Gray). Lesson, in his description of *C. sericeus*, quotes the number of the figure which represents *A. zenobia.* Ibis, 1870, p. 46.

A young male from Mysol in my collection is not to be distinguished from the specimen, described further on, of *C. auriceps.* But it has only put on two metallic shoulder-coverts, and two of the neck-stripe plumes, and that on one side only. One of the dorsal feathers is tipped with metallic green. On the habits of this species, consult Müller (*l. c.*).

34. Chalcostetha aspasioides (G. R. Gray), P. Z. S. 1860, p. 349, "Amboyna."

A species doubtfully separable from *C. aspasia.*

35. Chalcostetha porphyrolæma (Wallace), P. Z. S. 1865, p. 479, "Macassar."

The violet-purple throat at once distinguishes this species from *C. aspasia.*

36. Chalcostetha proserpina (Wallace), P. Z. S. 1863, p. 32, ♂ ♀, "Bouru."

A larger bird than *C. aspasia*, the middle and greater wing-coverts not metallic, but otherwise exactly like it. A Bouru example marked a female, in my collection, presents no features (its larger dimensions excepted) whereby it can be distinguished from the young male of *C. aspasia* already noticed, beyond that the tail is dull brown, and not black, and wants all traces of a silky or metallic gloss. This, as far as my investigations permit me to state an opinion, is a characteristic of the female in some, if not in all, of the Eastern Sun-birds.

37. Chalcostetha auriceps (G. R. Gray), P. Z. S. 1860, p. 348, "Batchian, Ternate."

Hab. Sula Islands, Batchian, Gilolo (Wallace).

This species is to be readily distinguished from the four last by the top of the head being bright golden green; otherwise it is closely allied. An example of a female (so marked by Mr. Wallace) in my collection, from Ternate, is above cinereous-brown, washed with olive-green on the dorsal region. Occipital feathers with pale cinereous edgings. Cheeks, chin, throat, and Ibis, 1870, p. 47. upper part of breast greyish-white; remainder of under surface pale yellow. Wings brown, coverts olive-green, and quills edged with that colour. Rectrices black, with a faint blue gloss, the three outer pairs tipped with dirty white. A young male putting on the perfect plumage, in my collection, from Gilolo, resembles the female, but is darker in all its hues; it has already assumed a frontal patch of pure golden-green. The rectrices of the young bird are still retained, and, as in the adult female, the three outer pairs are tipped with white. The upper tail-coverts are metallic blue. A new bright shoulder-covert or two has appeared; and a bright metallic-blue line descends from each angle of the mouth, the first indication of the glistening gorget of the perfect male. I mention these details, as I feel persuaded that by a study of the phases of plumage the young males of the *Nectariniæ* pass through before reaching maturity, we shall be able to predicate with some certainty the relative age of each species in the world's history. Even with the imperfect knowledge at our command, it may, I venture to think, be safely assumed that the males of the original species from which all the Sun-birds are descended were plainly coloured, like the females and young of the present time; and it can be shown, in one or two instances at least, that the perfect plumage of one species represents a phase of imperfect plumage in another.

38. ANTHREPTES MALACCENSIS (Scop.), Del. Fl. et Faun. Insub. ii. p. 90, no. 62, ex Sonn. (1786).

Le Grimpereau de Malacca, Sonn., Voy. Ind. ii. p. 209, t. 116.* f. 1, ♂, descr. orig.
Nectarinia javanica, Horsf., Tr. Linn. Soc. xiii. p. 167, "Java," (1822), descr. orig.
Ibis, 1870 p. 48. *Certhia lepida*, Sparrm., ap. Lath. Ind. Orn. i. p. 298, no. 60, ex Sonn. (nec Sparrm.).
Nectarinia lepida (Lath.), Temm. Pl. Col. livr. xxi. t. 126. f. 1, 2, ♂ ♀, "Java."
Cinnyris lepidus (Lath.), Vieill., Galerie, i. p. 291, t. 177.
C. javanica, Horsf., Swains., Zool. Illust. 1st ser. iii. t. 121.
Anthreptes lepida (Lath.), Wallace, P. Z. S. 1862, p. 343, "Sula Islands, Celebes."
Cinnyris lepidus, Lesson, Manuel, ii. pp. 33 & 58.
C. ruficollis, Vieill., Enc. Méth. Ois. p. 600, "Les Grandes Indes," ♂ adult. (1828), descr. orig.

Hab. Java, Sumatra, Borneo, Malacca (S. Müller); Celebes (Müller, Wallace); Sula Islands, "does not reach the Moluccas" (Wallace); Arracan, Tenasserim (Blyth); Labuan (Motley and Dillwyn); Banjermassing (Sclater, P. Z. S. 1863, p. 220); Flores (Wallace); Siam (Gould, P. Z. S. 1859, p. 151); Cambodia (Mus. nostr. ♀).

Banjermassing, Flores, Malaccan, and Javan examples in my collection in no way differ.

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* The *Grimpereau gris de la Chine* of the next Plate (117)—*Certhia grisea*, Scop. (ex Sonn.), and also, but independently, of Latham (ex Sonn., *C. tæniata*, Shaw, ex Sonn., and *Dicæum flavipes*, Vieill., ex Sonn.), is a *Prinia*, with ten rectrices, and agrees with *Prinia sonitans*, Swinhoe (Ibis, 1860, p. 50, from "Amoy and Foochow"); and I may here mention that *C. parietum*, Lath. (Ind. Orn. i. p. 298, no. 58, 1790, founded on Sonnerat's *Rossignol de muraille des Indes*, *op. cit.* p. 208), seems to be *Phœnicura superciliaris*, Jerd. *olim*, the South-Indian race of *Larvivora cyana*, Hodgs., from which it is specifically separable.

The bird figured by Temminck as the female I believe to have been a young male. The female seems to have the entire under surface of a uniform tint of yellow; whereas in the young male, whether with or without indications of the metallic plumage, the chin, throat, and upper breast are dirty white, contrasting with the clean greenish-yellow of the remainder of the lower plumage. These phases of plumage are analogous to what are found in *N. zeylonica.*

39. CHALCOPARIA SINGALENSIS (Gm.), S. N. i. p. 964, no. 86, 1788, ex Brown; Walden, P. Z. S. 1866, p. 543.

Green Warbler, Brown, Zool. Ill. p. 82, t. 32. f. 2, descr. orig.

Certhia lepida, Sparrm., var. β, Lath. Ind. Orn. i. p. 298, no. 60, ex Syn. Supp. i. p. 131, sect. 2, "Malacca," descr. orig.

Nectarinia phœnicotis, Temm., Pl. Col. livr. xviii. t. 108. f. 1, ♂, "Java, Sumatra" (May 22, 1824); *op. cit.* livr. lxv. t. 388. f. 2, ♀ (?); S. Müller & Schl., Verh. Nat. Gesch. Ned. Overz. Bez. Zool. Aves, p. 63.

Anthreptes rectirostris (Shaw), Blyth, Journ. Asiat. Soc. Beng. x. p. 925, "Moulmein."

Anthreptes phœnicotis, Blyth, *op. cit.* xii. p. 979, "Tenasserim" (1843), descr. orig. Ibis, 1870, p. 49.

Chalcoparia cingalensis (Gm.), Cab., Mus. Hein. i. p. 103, note.

Hab. Sumatra, Java, Borneo (Müller); Labuan (Motley & Dillwyn); Banjermassing (Sclater); Moulmein (Walden); Tippera, Arracan (Blyth); Malacca (Moore).

Mr. Wallace informs me that this species has the tongue short, triangular, horny at the tip, and entire.

The following species, recorded as inhabiting the East, I am unable to identify:—

Certhia pusilla, L., S. N. ed. 12, i. p. 185, no. 3, ex Edwards, Nat. Hist. i. p. 26, t. 26. The type was brought from Holland preserved in spirits, and was said to have been sent from the East Indies. Seemingly a female or young male of an *Arachnecthra.*

The next three titles were given by Gmelin to species described by Brisson from the plates of Seba. Like most of Seba's figures they defy even approximate identification.

Certhia macassariensis, Gm., S. N. p. 480, no. 48; *Polytmus indicus*, Briss., Orn. iii. p. 675, no. 6, ex Seba, Thes. i. p. 100, t. 63. f. 3, "Bali et Macassar," descr. orig. Perhaps founded on a species of *Chalcostetha.*

Certhia indica, Gm., *l. c.* no. 49; *Polytmus cæruleus indicus*, Briss., *tom. cit.* p. 682, no. 10, ex Seba, Thes. ii. p. 20, t. 19. f. 2, "*Avis colubris orientalis*," descr. orig. Deep blue, throat white, bill yellow, tongue bifid.

Certhia amboinensis, Gm., *l. c.* no. 50; *Polytmus amboinensis*, Briss., *tom. cit.* p. 685, no. 12, ex Seba, Thes. ii. p. 62, t. 62. f. 2. Dark green; bill and under wing-coverts yellow; throat and breast red. Seemingly taken from Valentyn*, whose works I have not been able to consult.

Cinnyris leucogaster, Vieill., Nouv. Dict. d'Hist. Nat. xxxi. p. 515, "Timor" (1819), described from a specimen said to have been brought by Maugé from Timor. Dr. Pucheran

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* Oud en nieuw Oost-Indien, etc. (Dordrecht and Amsterdam: 1724–26).

(Rev. et Mag. de Zool. 1853, pp. 484–487) identified the type, then existing in the Paris Museum, with *Cinnyris thoracicus*, Less. (Tr. d'Orn. p. 297, 1831), the same individual having been described by both authors. Lesson's account differs widely from that given by Vieillot; but neither agree with any *Nectarinia* since discovered in Timor or other eastern locality. Dr. Pucheran in this instance does not assist us. It seems to be a good species, with yellow pectoral tufts, allied to *Chalcostetha insignis* (Jard.).

Ibis, 1870, p. 50.

Cinnyris subflavus, Vieill., *tom. cit.* p. 494, "l'Inde" (1819). The type is no longer extant (*fide* Pucheran, *tom. cit.* p. 485). Apparently an *Æthopyga* of the subsection represented by *Æ. gouldiæ*, if not that bird itself.

Two species, *N. amasia* and *N. eximia*, are included by Mr. G. R. Gray in his lists of the birds of New Guinea and its Islands (P. Z. S. 1858, p. 190; 1861, p. 433) as inhabitants of New Guinea. I have failed in tracing the species to which the title *amasia* refers. Mr. G. R. Gray quotes no author; and Dr. O. Finsch (Neu-Guinea, p. 163)*, who attributes the title to Lesson, gives no reference. *N. eximia* is probably Temminck's species—*A. pectoralis* (Horsf.)—and has crept into the Tables by oversight.

Cinnyris eques, Less., has been generically separated, both by its discoverer and by Reichenbach, from the true Sun-birds. The last author having taken it out of Lesson's incongruous genus *Phylidonyris* (Tr. d'Orn. p. 299, 1831) made it the type of his genus *Cosmeteira* (Nat. Syst. i. Supp.; Handb. p. 283, 1853). Lesson obtained his type specimen in Waigiou. On comparing examples from Mysol a very considerable difference in the dimensions is found.

	Longitudo.			
	Rostr. a nar.	Alæ.	Caudæ.	Tarsi.
Waigiou	·63	2·75	2·5	·75
Mysol	·48	2·25	1·75	·66

The tarsus in the Mysol species is not much shorter than in that of Waigiou, but is less robust. The colouring of the plumage only differs in being paler. I propose the title of COSMETEIRA MINIMA for this species.

Ibis, 1870, p. 51.

This imperfect sketch of the eastern Sun-birds I shall conclude with a Table showing those which were described by Linnæus and Gmelin. In the Twelfth Edition of the 'Systema Naturæ' (1766) we find the following:—

1. *Certhia* (*Arachnechthra*?) PUSILLA, "India," ex Edwards, ♀ vel ♂ juv.=——?
2. *C.* (*Nectarophila*?) CURRUCARIA, "Zeylona," descr. orig.=*C. zeylonica*, L., ♀ vel ♂ juv. (?).
3. *C.* (*Arachnechthra*) JUGULARIS, "*in* Philippinis," ex Briss., ♂ adolescens.
4. *C.* (*Nectarophila*) SPERATA, "*in* Philippinis," ex Briss., ♂ adult.
5. *C.* (*Arachnechthra*?) *philippina*, "*in* Philippinis," ex Briss.=*C.* JUGULARIS, L., ♂ vel ♀ juv. (?).
6. *C.* (*Nectarophila*) ZEYLONICA, "Zeylona," ♂ adult., descr. orig.
7. *C.* (*Arachnechthra*) LOTENIA, "Zeylona," ♂ adult., descr. orig.

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* Of the twenty species referred to *Nectarinia* by Dr. O. Finsch (*l. c.*) at least nine belong to the genus *Myzomela*. Dr. Finsch's Table of distribution, in other respects, requires revision.

The following species were added by Gmelin in the Thirteenth Edition (1788).

1. *C.* (*Arachnechthra?*) *falcata*, ex Lath., patr. non indicat. = *C.* LOTENIA, L. (?).
2. *C.* (*Chalcostetha?*) MANILLENSIS, "Manilla," ex Montb. = *Nectarinia insignis*, Jard. (?).
3. *C.* (*Nectarophila*) BRASILIANA, "Brasilia"!, ex Briss. = *Nectarinia hasseltii*, Temm.
4. *C. sperata*, L., var. *β*, ex Sonn. = *C.* SPERATA, L.
5. *C.* (——)? *macassariensis*, "Baly *et* Macassar," ex Seba. = ——?
6. *C.* (——?) *indica*, "India," ex Seba. = ——?
7. *C.* (——?) *amboinensis*, "Amboina," ex Seba. = ——?
8. *C. zeylonica*, L., var. *β*, "*Ins.* Philippin." ex Lath., Syn. ii. p. 715, no. 13, var. A. = *C.* ZEYLONICA, L., ♂ adolesc. (?).
9. *C.* (*Arachnechthra*) *omnicolor*, "Zeylon," ex Seba. = *C.* LOTENIA, L.
10. *Motacilla* (*Chalcoparia*) SINGALENSIS, "Zeylon"!, ex Brown.

Descriptions of some new Species of Birds from Southern Asia. By ARTHUR, Viscount WALDEN, P.Z.S. &c. [From the 'Annals and Magazine of Natural History,' ser. 4, vol. v., March 1870.]

A. M. N. H.
ser. 4, vol. v.
p. 218.

SITTA NEGLECTA, n. sp.

Above pale slate-colour. Stripe from nostrils, through the eyes to nape, black. Lores, supercilium, cheeks, chin, and base of primaries white. Throat tawny white. Breast pale rufous, deepening into dark rusty on remainder of lower surface. Under tail-coverts white, with narrow rusty edgings. Middle rectrices uniform slate-colour. Wing 3 inches; bill $\frac{4}{8}$ inch.

Three examples of this Nuthatch were obtained from the Karen Hills of the Tonghoo district, Burma. It differs from its nearest ally, *S. himalayensis*, J. & S., by its much stouter and longer bill, by the deep ferruginous tint of the under surface, and by the absence of a white spot on the basal half of the middle rectrices.

PASSER ASSIMILIS, n. sp.

Resembles *P. cinnamomeus*, Gould, but differs by being smaller, by having a slenderer and smaller bill, and by having the cheeks and sides of the neck pure white, and the breast, flanks, and ventral region ashy grey. Wing $2\frac{5}{8}$ inches; tail $1\frac{6}{8}$, or nearly half an inch shorter than in *P. cinnamomeus*.

From Tonghoo.

GLAUCOMYIAS SORDIDA, n. sp.

General colour ashy grey, washed with a faint tinge of blue or greenish blue. Forehead, supercilium, chin, and lesser shoulder-coverts deep pure blue. Under shoulder-coverts, axillaries, vent, and under tail-coverts white. Tail brown, with a dingy gloss of dark green. Bill, legs, and claws black. Lores black. Wing nearly 3 inches; tail $2\frac{6}{8}$; tarsus $\frac{5}{8}$; fourth and fifth quills

A. M. N. H. ser. 4, vol. v. p. 219. equal; third nearly as long; second still shorter than third; first half the length of second. Bill lengthened and much hooked.

Four examples of this very distinct species were sent to me from Ceylon. I am not certain that it should not be classed as a *Cyornis*, near to *C. unicolor*, Blyth. At first sight it resembles an immature *G. melanops*, Vigors.

PRINIA ALBOGULARIS, n. sp.

Upper surface, cheeks, and sides of neck ashy brown, faintly tinged with olive. Quills and upper surface of tail brown. Quills edged externally with rufous. Chin, throat, ventral region, and under tail-coverts pure white. Breast and flanks ashy grey, the grey breast contrasting strongly with the white throat. Tail consisting of ten feathers, each of which, except the middle pair, is tipped with white, which forms an edging to a black terminal spot; remaining under surface of tail pale grey. Under shoulder-coverts, thigh-coverts, and inner webs of all the quills rufous. Bill black. Legs pale flesh-colour. Fourth, fifth, and sixth quills equal and longest; third and seventh equal and a little shorter; second a quarter of an inch shorter than third; first half the length of third. Tail 2 inches, wing $1\frac{7}{8}$, tarsus $\frac{11}{16}$.

From Coorg.

The broad ash-coloured pectoral band is a striking character in this species.

MEGALAIMA INORNATA, n. sp.

The large green Barbet of South-western India has hitherto been confounded with that of Central India, *M. caniceps* (Franklin). That of South-western India, to which I give the above title, is to be distinguished from all the other known green Barbets by having the chin, throat, breast, and upper portion of the abdominal region uniform pale brown. Each feather has the shaft, very faintly, paler. The plumage above closely resembles that of *M. caniceps*; but the terminal spots on the wing-coverts and tertiaries are almost altogether wanting. The dimensions of both species are nearly alike, but the bill of *M. caniceps* (ex Maunbhoom) is shorter and not so stout. The absence of the broad pale median streaks on the pectoral plumage readily distinguishes this species.

Described from two Malabar examples, two from Coorg, and three from Candeish.

BUCHANGA LEUCOGENIS, n. sp.

General colour pale, delicate slate-grey, or French grey. Chin, narial plumes, and terminal portion of the primaries black. An oval patch on each side of the head, surrounding the eyes and extending from the base of the bill to beyond the cheeks, pure white. Bill and feet black. Wing $5\frac{1}{2}$ inches; tail $5\frac{1}{2}$. Immature birds have the grey tint more or less sordid, and the white facial patch indistinct. A. M. N. H. ser. 4, vol. v. p. 220.

This well-characterized species of Drongo has hitherto been mistaken for the *Dicrurus leucophæus*, Vieill.; but, as Vieillot's title was founded on Levaillant's 170th plate (Ois. d'Afr.), it must be referred to *D. cineraceus*, Horsf., over which designation it takes precedence. The *white-faced Drongo* inhabits Malacca, Cambodja, China, and Japan, being probably only a migrant to the two latter countries. The above description is taken from a Nagasaki example.

BUCHANGA MOUHOTI, n. sp.

Belongs to the "Ashy Drongos" (P. Z. S. 1866, p. 546)*, and was obtained by M. Mouhot in Cambodja. Above ashy grey or plumbeous, rather darker than in *B. leucophæa*, ex Java. Under surface lighter ashy, but darker than in the Javan species. Upper surface of middle rectrices grey, as in the Javan bird. Wing $5\frac{2}{8}$ inches; outer tail-feathers $5\frac{6}{8}$, middle tail-feathers $5\frac{2}{8}$; difference between outer and middle pairs $1\frac{4}{8}$; bill from nostril full $\frac{5}{8}$ of an inch.

A species intermediate in dimensions and colouring between *B. leucophæa* and *B. pyrrhops*, Hodgs.

BUCHANGA WALLACEI, n. sp.

Above dark ashy green, with a silky gloss. Underneath a shade lighter, but without any gloss, except on the breast. Upper surface of rectrices glossy greenish brown; no traces of ash-colour. Bifurcation of the tail moderate. Wing 5 inches to $5\frac{1}{8}$; outer tail-feathers 5 inches, middle pair 4 inches.

Described from specimens obtained in Lombock by Mr. Wallace.

Letter relating to the Indian Yellow-headed Wagtails, from Viscount WALDEN, P.Z.S., *to the* EDITOR *of* 'THE IBIS' (April 1870).

Ibis, 1870, p. 293.

SIR,—In a letter addressed to you by Mr. Hume (Ibis, 1870, p. 142) that gentleman announces the existence in India of two species of *yellow-headed* Wagtails. Not having seen the examples on which this statement is founded, I shall not venture an opinion as to its accuracy; but, with your permission, I wish to make the following observations on the general subject:—

1. *Motacilla aureocapilla* is Lesson's title, not Vieillot's.
2. Lesson's diagnosis (Tr. d'Orn. p. 422) contains no character inconsistent or conflicting with the characters given by Pallas of *M. citreola*.
3. Lesson gives no measurements.
4. Bonaparte and Mr. G. R. Gray identified *M. aureocapilla*, Lesson, with *M. citreola*, Pallas.
5. Dr. Pucheran, after a critical comparison of Lesson's type specimens in the Paris Museum (Arch. du Mus. vii. p. 377), pronounced it to be the same as *M. citreola*, Pall.
6. An adult male of *M. citreola*, Pall., from the shores of Lake Baikal, in my collection has the wing 3·5 in. long.

If two distinct specimens of *yellow-headed* Wagtails do inhabit India, it will have to be determined whether either belongs to Pallas's species, and, if either, which of the two. These facts being ascertained, it must then be decided to which of the two Mr. Hodgson's title of *Budytes calcaratus* applies; and if an untitled species remains, it will require a new name.

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* [*Anteà*, pp. 23, 24.—ED.]

Judging from the length of the wing in Mr. Hume's alleged *B. citreolus* (Pall.), it must be Ibis. 1870, p. 294. distinct from the Siberian bird, being less by fully ·5 in.; but, in truth, mere dimensions, except where of fully adult individuals, are not trustworthy data on which to build species.

Yours, &c.,
WALDEN.

Chislehurst, Feb. 17, 1870.

A. M. N. H. ser. 4, vol. v. p. 416. *Descriptions of some new Species of Birds from Southern Asia.* By ARTHUR, Viscount WALDEN. P.Z.S. &c. [From the 'Annals and Magazine of Natural History,' ser. 4, vol. v., June 1870.]

GEOCICHLA LAYARDI, n. sp.

The *Geocichla* of Ceylon is most nearly allied to *G. citrina* (Lath.), of Northern and Central India, and not, as might have been expected, to *G. cyanota* (J. & S.) of Malabar. From Latham's bird it is to be readily distinguished by the much deeper orange of the head and nape, these parts being of the same dark shade of orange-brown characteristic of *G. rubecula*, Gould, ex Java. On the under surface the orange tints are brighter and richer than in *citrina*, yet not nearly so dark as in *G. rubecula*; the blue-grey portion of the plumage is likewise darker than in *G. citrina*, but not so dark as in *G. rubecula*. In the distribution of the white plumage the three species resemble each other; they appear, along with *G. rubiginosa*, Müller, ex Timor, to form a small natural section. Wing $4\frac{3}{8}$ inches, bill $\frac{4}{8}$.

Described from a single Ceylon example, and which is marked by the collector as "rare."

A. M. N. H. ser. 4, vol. v. p. 417. IRENA TURCOSA, n. sp.

Irena puella (Lath.), Horsf. Linn. Tr. xiii. p. 153.

The species belonging to the genus *Irena* may be divided into two sections:—the first consisting of a single species, *I. cyanogastra*, Vigors, from the Philippines; the second comprising, at the least, three closely related species, of which *I. puella* (Latham) may be made the type. *I. puella* appears to be restricted to the Western Ghauts of India and to Ceylon; for, judging only, it is true, from the examples of the female, the Burmese race belongs to that of Malacca; and individuals from Arracan and Assam will, in all probability, be found to agree with those from Burma. The Malayan form, *I. cyanea* (Begbie) (Malayan peninsula, 1834)=*I. malayensis*, Moore, frequents both the peninsula of Malacca and the island of Sumatra; for between examples from these two localites I can detect no distinction. Java contains a third species, the *I. puella* (Lath.), ap. Horsf.; and it is for this species I propose the title given above. As in *I. cyanea* (Begbie), the Javan *Irena* has the upper and under tail-coverts much more developed than in *I. puella* from the Western Ghauts. In my Javan examples the tail-coverts surpass the rectrices in length, while in *I. cyanea* the coverts do not quite equal the rectrices. The bill of *I. turcosa* is also stouter than that of *I. cyanea.* But the Javan *Irena* is most distinguished by the blue colouring of the upper plumage being light turquoise. When compared together, the Malabar *Irena* is dark blue, inclining, in some lights, to purple; the Malayan is of a somewhat lighter shade of blue; the Javan is light blue. In all three species the length of the wing is equal. In the Malabar bird the tail exceeds that of the other two by a quarter of an inch. The females of the Malayan and Javan species closely resemble each other in the colour of their plumage; the female of the Malabar bird is much darker, and easily recognizable.

Latham's *Fairy Roller* (Syn. Suppl. i. p. 87) was described from a drawing by Lady Impey. If the subject of that drawing was from Eastern India or the Malay peninsula (in itself most highly probable), the Malayan species will bear the title of *I. puella* (Latham), and the Malabar bird that of *I. indica*, A. Hay; but, as the point is seemingly beyond the reach of proof, it will be best to adhere to the titles given above.

EPHIALTES JERDONI, n. sp.

Ephialtes lempiji, Horsf., Jerdon, in part, B. of Ind. i. p. 138.

This title is suggested for the larger *Scops* owl of Malabar. Mr. Gurney, to whom I have submitted a large series of *E. lempiji* (Horsf.) and its affined species, concurs with me in the propriety of bestowing a separate title on the species inhabiting the Western Ghauts of India. It is chiefly characterized by the ruddy ground-colour of its plumage, and the tarsal feathers being nearly, if not quite, immaculate. This and *Scops griseus*, Jerd., form two well-marked species, both differing from Javan examples of *E. lempiji* (Horsf.), the first inhabiting the Western Ghauts, the second the Eastern, and also the forests in the vicinity of Maunbhoom.

A. M. N. H. ser. 4, vol. v. p. 418.

1871.

Letter on Prinia albogularis *and* Ephialtes jerdoni, *from* Viscount WALDEN, P.Z.S., *to the* EDITOR *of* 'THE IBIS' (January 1871).

Ibis, 1871, p. 112.

Chislehurst, Jan. 11, 1871.

SIR,—Dr. Jerdon has kindly informed me that he considers *Prinia albogularis*, nob., Ann. Nat. Hist. ser. 4, vol. v. p. 219 *,=*Prinia hodgsoni*, Blyth, J. A. S. B. vol. xiii. p. 376. And I wish to add that *Ephialtes jerdoni*, nob., *tom. cit.* p. 417 †,=*Scops malabaricus*, Jerdon, Madras J. L. & S. xiii. p. 119.

I remain,
Yours obediently,
WALDEN.

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* [*Anteà*, p. 94.—ED.]

† [*Vide suprà.*—ED.]

A. M. N. H. ser. 4, vol. vii. p. 241.

Descriptions of three new Species of Asiatic Birds. By ARTHUR, Viscount WALDEN, P.Z.S.

[From the 'Annals and Magazine of Natural History,' ser. 4, vol. vii., March 1871.]

PHYLLORNIS CHLOROCEPHALUS, n. sp.

The Burman representative of the Sumatran and Malaccan *Phyllornis icterocephalus*, Temm. *ap.* Bonap., has not been hitherto discriminated. It chiefly differs from that species by possessing a much longer bill, by having the crown of the head green and not yellow, and by wanting the intense golden colour of the nape. The frontal plumes are bright yellow. The female (perhaps the young male) has the forehead as well as the crown bright green. Bill from nostril full half an inch; other dimensions as in Malaccan examples (four in number) of *Ph. icterocephalus*, Temm. Described from three adult males and one female, obtained near Tonghoo.

The next two species were discovered by Dr. Jerdon, who has kindly asked me to describe them.

TURDINUS STRIATUS, n. sp.

Feathers of the head, nape, and back cinereous brown, narrowly edged with a rich ruddy brown, changing to dark brown on the margins. Wings and tail pale brown, tinged with rufous. The long and lax upper tail-coverts brown, tipped with ferruginous; under tail-coverts bright rust-colour. Chin, throat, and upper breast-feathers white at the base and on the edges, with brown centres. Abdominal region and flanks pale brown, tinged with rufous. Lores, cheeks, and ear-coverts pale brown. Upper mandible horn-brown; lower paler, inclining to yellow. Legs yellowish brown. Bill from forehead $\frac{6}{8}$ of an inch, wing $2\frac{3}{8}$, tail 2 inches, tarsus $\frac{7}{8}$.

Khasia hills, near Cherra Poonjee.

This interesting species is a diminutive member of the Indo-Malayan genus *Turdinus*. It closely resembles, in its general aspect, *Turdinus macrodactylus* (Strickl.), but is a great deal smaller, and has the throat striated and not pure white.

CISTICOLA RUFICOLLIS, n. sp.

A. M. N. H. ser. 4, vol. vii. p. 242.

Stripe over the eye, ear-coverts, thigh-coverts, flanks, under tail-coverts, and a broad band extending from the sides of the neck across the nape bright rufous. Feathers of the head pale fulvous at base, changing to rufous at the extremity; many with broad black centres. Dorsal feathers and wing-coverts black, with narrow fulvous edgings; those on the rump edged and tipped with rufous. Quills dark brown, with yellowish-rufous edgings. Rectrices above also dark brown, the outer webs washed with tawny rufous; tips pale fulvous. Rectrices underneath ashy brown; a bold black bar or spot near the end of each feather, which is terminated with pale fulvous. Lores, chin, cheeks, throat, and remaining under surface fulvous white, more or less tinged on the breast with pale rufous. Upper mandible dark brown; under mandible yellowish at base.

Legs reddish yellow. Bill from forehead $\frac{3}{8}$ of an inch, tarsus $\frac{5}{8}$, tail $2\frac{1}{8}$, wing $1\frac{11}{16}$. In another example the rectrices above want the pale terminal fringe.

Obtained at Debrooghur.

This very distinct species, in its style of coloration, greatly resembles *Graminicola bengalensis*, Jerd. Dr. Jerdon informs me that it occurs all through Assam, but only in dense long grass.

Observations on Dr. Stoliczka's "*Contributions to Malayan Ornithology*"*. By ARTHUR, Viscount WALDEN, P.Z.S. [From 'The Ibis,' April 1871.]

Ibis, 1871, p. 158.

BY the publication of the paper the title of which is given above, Dr. Stoliczka has materially increased our knowledge of the ornithology of a region hitherto but little known. The small British possession of Province Wellesley appears never to have been before explored by the ornithologist, unless some portion of the so-called Pinang collections, which occasionally come to Europe, are made on the mainland. From this district Dr. Stoliczka enumerates about eighty-six species, chiefly belonging to the *Picariæ* and *Passeres*. And it is perhaps the principal merit of these "contributions" that while they enable us, for the first time, to fix the northern limits of some, they extend our acquaintance with the range of many Malaccan species. Thanks to Dr. Stoliczka, our knowledge of the *habitat* of many Malayan species can no longer be summed up in the unsatisfactory and stereotyped words "Malacca," or "Singapore." In most instances copious notes are added, generally consisting of elaborate descriptions, objections to the validity of certain species, and rectifications in accordance with the author's views of the synonymy of others.

Province Wellesley is a narrow strip of land which runs for about thirty-five miles along the western coast of the Malay peninsula, opposite to Pinang. It does not appear to extend more than four miles inland; and as it occupies so small a part of the breadth of the Malayan peninsula, we must not be too sure that its birds do more than approximately indicate the character of the ornis within the same degrees of latitude. It is quite possible that Malaccan peninsular forms which appear to cease in the Province, may, further inland, have a more northern limit, or that Indo-Burmese species may descend further south. Yet in the province itself a change in the character of the avifauna does occur, and many Malaccan species there cease, and Indo-Burmese there begin to appear. And, whether it be a mere coincidence or something more, the parallel of latitude at which the island of Sumatra terminates in the north intersects the Malayan peninsula at the point where the peninsular ornis commences to lose its Sumatran character. Ibis, 1871, p. 159.

The synonymy of the Indo-Malayan avifauna remains still, to a great extent, in a backward and unsettled condition. The difficulty of obtaining specimens from the different principal areas of the subregion wherewith to make comparisons is one great reason; for it is useless to attempt to decide from descriptions alone the identity or non-identity of many of the species described by the older authors; and the ornithology of the Indo-Malayan countries having attracted the attention of writers from the earliest period, its literature is very considerable. We must not, therefore, be surprised at finding some corrections needed in Dr. Stoliczka's interesting paper, and that his conclusions, here and there, require some modification. Having for many years devoted much time to the study of Malayan ornithology, and having had considerable opportunities of consulting both books and specimens, I propose to make a few remarks on some of the more important observations and statements of the learned Doctor.

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* J. A. S. Bengal, vol. xxxix. pt. ii. p. 277.

The suggestive introduction to the "Contributions," however, contains some sweeping generalizations, which first deserve special notice. We are told that more than one half the species inhabiting Sumatra, Java, the greater part of Borneo, the Malayan peninsula, from Singapore to province Wellesley, and including the island of Pinang, are absolutely the same. Upon what data is this assertion based? In the absence of any authentic and exhaustive lists of the species inhabiting these several regions, it is not in our power to deny its accuracy; but, until such lists have been prepared and analyzed, it remains equally beyond our power to affirm its truth. The facts I have been enabled to collect, insufficient, I admit, to be deemed conclusive, tend to prove that nearly all the birds of the Malaccan peninsula are identical with those of the island of Sumatra, but that Sumatra over and above possesses species that do not occur in the peninsula of Malacca, that Java contains a large number of species which differ from those of Malacca and Sumatra, and that Borneo possesses species some of which are Javan and others Malaccan in their identities. I exclude, of course, the *Accipitres*, *Grallæ*, and *Anseres* from the comparison. Ibis, 1871, p. 160.

"Several of the birds noted from the Wellesley province represent intermediate types between the northern Indo-Burmese and the southern Malayan forms." A careful perusal of Dr. Stoliczka's paper has not enabled me to find one positive fact to support this statement. Not a single indisputable instance is given of a Province-Wellesley individual presenting characters distinguishing it from a Malaccan individual on the one side, and from an Indo-Burmese on the other.

Dr. Stoliczka is energetic in his denunciation of the practice of giving specific titles to forms from different areas, such as India, Burma, the Malay peninsula, and Java, which differ only in a certain degree from one another. The learned Doctor does not define the amount of difference necessary to constitute a species, but continues—"Such artificial specific distinctions may look very well in a catalogue of birds, or on the labels in a museum, when perhaps one or two specimens from distant localities are considered to indicate an unusual richness of the collection; but they are far from sufficient to illustrate the fauna of a province, and those so-called species have often no existence in nature." Let us admit, though only for the sake of argument, that naturalists when endeavouring to bring together examples of nearly allied forms from widely separated areas, are not actuated by higher motives than those here suggested; still do they not do more to illustrate the fauna of a district than if they ignored the facts thus acquired? Do not many of these facts raise some of the most perplexing questions in natural history—notably the question what is and what is not a species? If ornithologists are open to the imputation contained in the passage quoted, how is it that all the inhabitants of one distant region, and not merely a trifling percentage, are not described under distinct titles, in order that they "may *look well* in a catalogue of birds or on the labels in a museum"? My experience of the motives which guide ornithologists when investigating, discriminating, and recording the differences existing between forms inhabiting distinct areas certainly prevents me from agreeing with Dr. Stoliczka's remarks on this subject.

1. Hierax fringillarius (Drap.). Ibis, 1871, p. 161.

There is much to be said in favour of Dr. Stoliczka's view that *H. eutolmus*, Hodgs.,=*Falco cærulescens*, Linn. Edwards's description agrees better with *H. eutolmus* than with the Malaccan form; but he says nothing about the white nuchal patch, nor does he figure it. Mr. Blyth unites Javan and Malaccan individuals under one species. A recomparison may show that they differ; and certainly Malaccan individuals do not well agree with Horsfield's plate. Sumatran and Malaccan examples in my collection are undistinguishable. I have received *H. eutolmus* from Tonghoo.

2. Loriculus galgulus (Linn.).

As the top of the head of *L. vernalis* is not red, Dr. Stoliczka probably alludes to *L. indicus* (Gm.).

5. Harpactes kasumba (Raffles).

The description of the individual noted as a doubtful female of *H. kasumba* agrees well, and only, with the female of that species. It is certainly not the female of the Ceylon and Malabar *H. fasciatus* (Forst.). The bars on the wing-coverts of *H. kasumba*, ♀, are broader than in the male. In *H. fasciatus* there is no difference between the form and proportions of the sexes; their colour alone distinguishes them. Labuan examples of *H. kasumba* do not differ from Malaccan.

Four species of *Harpactes*, as surmised by Mr. Wallace, exist in the Malaccan peninsula:—1. *H. kasumba* (Raffl.); 2. *H. diardi* (Temm.); 3. *H. duvaucelii* (Temm.); 4. *H. rutilus* (Vieill. *ap.* Gould). This last is assuredly a species distinct from *H. duvaucelii*, as Mr. Gould was the first to point out. I possess examples of both species from Malacca.

Dr. Cabanis (Mus. Hein. iv. p. 154) refers *Trogon duvaucelii*, Temm., to *T. rutilus*, Vieill., and regards it as an insular species. *H. rutilus*, Vieill. *ap.* Gould, with a uniform cinnamon-coloured upper plumage, Dr. Cabanis (*tom. cit.* p. 156) describes as a new species, from Malacca, under the title of *Pyrotrogon orrhophæus*, and considers it to be the continental representative of the Sumatran *T. duvaucelii*. *Le couroucou cannelle mâle*, of Le Vaillant, on which both *T. rutilus*, Vieill., and *T. cinnamomeus*, Temm., were founded, is described by Le Vaillant (Hist. Nat. Couroucous, p. 20) as having the back, scapulars, *rump*, and *upper tail-coverts* of a lively rufous or pure cinnamon-colour. It cannot, therefore, have been described from an example of *T. duvaucelii*, Temm. Mr. Gould's identification appears to be quite in accordance with the facts; and the title of *orrhophæus*, Cab., will have to be suppressed. Ibis, 1871, p. 162.

The Sumatran *H. mackloti*, Müll., may yet be discovered in the Malayan peninsula, while the occurrence of a species closely allied to the Javan *H. orescius* (Temm.) in Tenasserim is of the highest interest.

10. Phœnicophaes curvirostris (Shaw).

It has been satisfactorily demonstrated by Dr. Cabanis (Mus. Hein. iv. p. 67) that this title applies to the Javan Malkoha only. The Malaccan, Sumatran, and Bornean form, with round nostrils and red lower mandible, must take the name *Ph. erythrognathus*, Hartl. (Verz. Brem. Samml. p. 95, 1844), founded on the Sumatran Malkoha, *Cuculus melanognathus*, Horsf. *ap.* Raffles, *nec* Horsf. Dr. Stoliczka states that the middle pair of rectrices are sometimes wholly green—an important fact, and which will probably invalidate the right of *Ph. æneicaudus*, Verr., to separate specific rank. A Labuan example in my possession has the middle pair also entirely green.

18. Xantholæma indica (Lath.).

If *Bucco philippensis*, Brisson, is really identical with the Indian little Barbet (*B. indicus*, Lath.), this species must take Statius Müller's name *hæmacephala*, founded by him on Buffon's *Barbue des Philippines* (Pl. Enl. 331 *), which came from the Philippines (probably Brisson's type, brought by Poivre), as stated by Buffon (Hist. Nat. vii. p. 102) and also by S. Müller. In Messrs. Marshalls' Monograph of the *Capitonidæ*, it is erroneously stated that Müller's *hæmacephala* was founded on examples from Sumatra; whereas Müller distinctly says "Er wohnet in den Philippinischen Inseln, Buffon." So far as we know, none of Müller's titles were founded on specimens. They were mostly given, like Boddaert's, Scopoli's, and Gmelin's, to plates or descriptions in other works.

Ibis, 1871, p. 163.

19. Megalorhynchus hayi (Gray).

Lesson's generic title, *Caloramphus*, supersedes that of Eyton, having been published one month earlier (Rev. Zool. 1839, May 1st). Dr. Stoliczka has correctly retained the specific name *hayi*, J. E. Gray, for the Malaccan bird. Most unaccountably, in the Monograph of the *Capitonidæ*, Gmelin's title *lathami*, erroneously applied by Raffles (Trans. Linn. Soc. xiii. p. 284) to the Sumatran *Caloramphus*, is adopted, and, moreover, as if it were an original title of Sir Stamford's; for the date 1822 is added. Sir Stamford enumerated the species in his List of Sumatran Birds under the title of *Bucco lathami*, Gm. It is almost superfluous to remark that Latham's Buff-faced Barbet (Synop. i. p. 504, pl. 32), on which Gmelin founded his *B. lathami*, cannot possibly refer to *C. hayi*. It is a dark olive-green bird, with the forehead, chin, sides of the head, and round the eyes dull buff colour, yellow in the plate. *Bill beset with bristles at the base.* No plausible identification of Latham's bird has as yet been made.

20. Tiga "rufa," Raffl.

It is difficult to perfectly understand the meaning Raffles intended to convey in the last member of the sentence, "Tukki besar, or *T. rufa*." Nor does Vigors in the "Memoir" assist us; for he does not repeat the words—from which it may, however, be inferred that Vigors did not consider that Sir Stamford intended to bestow a new specific name on Horsfield's species. Malherbe quotes the passage "ou Tukki rufa, Rafll.," thus regarding the letter *T.* as the initial of the native name. Tukki is the Sumatran word, as Phatuk seems to be the Javan, for Woodpecker. Perhaps "besar" is the Sumatran for red, and Sir Stamford may have added the words "or *T. rufa*" as a literal translation of the native name. In the case of *Falco dimidiatus*, he wrote "Lang Laut, or Sea Eagle," thus translating the native name into English, and not into Latin. But still the use of the letter *T*, instead of *P*, is unaccounted for. If *T* is a misprint for *P*, why *rufa*? And yet Sir Stamford could not have meant *T* as the initial of "Tiga;" for that word, in a generic sense, was not used until sixteen years later by Kaup. The question, however, is of small importance; for the oldest title for the Javan species appears to be *Picus javanensis*, Ljungh (Act. Stockh. xviii. p. 134, 1797), unless, indeed, the Sumatran and Malaccan *Tiga* differs from the Javan. Ibis, 1871, p. 164.

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* Given in the Monograph of the *Capitonidæ* as no. 871, which represents *M. virens* (Bodd.). It is to be hoped that the slips in synonymy, and the omission of many important references, which somewhat detract from the scientific value of this otherwise beautiful work, will be repaired in an appendix.

22. HEMILOPHUS JAVENSIS (Horsf.).

Swainson's generic name cannot be used, having been previously employed (Audinet-Serville, Entom. 1835). *Mulleripicus*, Bp., next in priority, can only be adopted for *P. javensis* and its affines on the assumption that they are congeneric with *P. pulverulentus*, Temm.*, the type of Bonaparte's genus. Dr. Cabanis has separated them under the title of *Thriponax*.

The Burmese species *M. feddeni*, Blanford† (=*Picus crawfurdi*, J. E. Gray?), is easily to be distinguished from *T. hodgsoni* (Jerd.) by having a very broad white mark on the inner webs of the whole of the quills, primary and secondary, the short first primary included. This white mark occupies about half the length of each quill. In *T. hodgsoni*, the white marking is restricted to the inner webs of the primaries at their insertion, and is only to be detected by pushing aside the under carpal coverts. On the inner webs of the secondaries it is more developed, but is not discernible without first removing the white under wing-coverts. The dimensions of the wings and tail of the two species are about equal, but those of the bill of *T. hodgsoni* are much greater. The extent of white on the back of *T. feddeni* is also more considerable. In full-plumaged males of *T. feddeni*, a conspicuous pure white oval spot occupies the tips of the 3rd, 4th, 5th, and 6th primaries. In younger males these spots are dirty brown, and indistinct. I have detected similar indications in Javan examples of *T. javensis*, also in the Malaccan form, but not in individuals of *T. hodgsoni*. Full-plumaged male Javan examples of *T. javensis* have the white on the inner webs of the quills limited, as in *T. hodgsoni*. In Malaccan examples the white is more developed, although not nearly so much as in *T. feddeni*. Ibis, 1871, p. 165.

25. CHRYSOPHLEGMA MALACCENSIS (Lath.).

Malherbe's identification of *Picus malaccensis*, Lath., with *P. miniatus*, Forster, seems well founded, and so also his opinion that the individual referred to by Mr. Blyth (J. A. S. B. xiv. p. 192) belongs to another species.

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* Both Malherbe and Dr. Cabanis have superseded Temminck's title by that of *gutturalis*, Valenc., *ex* Sumatra. The 66th livraison of the 'Recueil' was published 10th June 1826. The 40th volume of the Dict. des Sc. Nat. was likewise published in 1826; but the month has yet to be determined. Until that is decided, it seems best to retain the title under which the species was first figured, and by which it is best known.

† [Cf. Blyth, J. A. S. B. xxxii. p. 75 (1863).—ED. of 'Ibis.']

29. MEIGLYPTES MARGINATUS (Reinw.).

Latham's description of his *P. pectoralis* certainly does not agree sufficiently with *P. brunneus*, Eyton, to warrant the conclusion of Mr. Blyth and of Malherbe. Reinwardt's title cannot stand, as it was not published until after Eyton's and Lesson's. The oldest available title, therefore, seems to be *tukki*, Less. (Rev. Zool. 1839, June 1st, p. 167, *ex* Sumatra), which is senior to Eyton's *brunneus* by about three weeks. *P. luridus*, Nitszch, was published a year later (Pterylogr. p. 137, 1840).

31. HALCYON COROMANDELICUS, Scop.

Must stand as *H. coromanda*, Lath. The variations, both of colour and dimensions, which this species exhibits in the different localities it inhabits have been well shown by Mr. Sharpe in his accurate and conscientious monograph. The Japanese race is larger, and not smaller, than that of India.

32. H. ATRICAPILLUS, Gm.

=*H. pileata*, Bodd., which must stand.

33. H. FUSCUS, Bodd.

Mr. Sharpe finds that individuals from Asia Minor, and from India, Malay peninsula, &c., are absolutely the same, and therefore adopts *H. smyrnensis* (Linn.). This sets the question at rest; for we cannot follow a more reliable author. The individual described by Dr. Stoliczka is clearly a young bird.

Ibis, 1871, p. 166. 35. DACELO PULCHELLA, Horsf.

Carcineutes is a good genus, characterized by the notch at the gape, and should be adopted for this species and its Bornean ally. The example described seems to be one of a very old bird, but not quite in full plumage. The chestnut collar disappears in very old individuals, and the entire hinder neck is blue.

36. ÆTHOPYGA LATHAMI (Jard.).

Since writing my paper on the eastern Sun-birds, I have had the good fortune to acquire from Pinang a large series of the species noticed under this title by Dr. Stoliczka. The correct title for the Malaccan *Æthopyga* cannot be decided until Sumatran examples of *Certhia siparaja*, Raffles, have been compared with it. There is, and has been, little doubt that *Nectarinia lathami*, Jard., was described from a Malaccan individual, or else from an example not differing from the Malaccan species. But Sir Stamford's description of *C. siparaja* will equally well apply to the Malaccan bird, the brown middle pair of rectrices notwithstanding, old feathers not thrown off. Dr. Cabanis is the only author who has maintained that the Malaccan *Æthopyga* is distinct from the Sumatran. His title, *eupogon*, certainly applies to the Malaccan species, and I find, by comparison, that Labuan examples cannot be separated. But Dr. Cabanis does not leave it quite clear that he had compared his *eupogon* with the Sumatran *siparaja*. A Sumatran example, it is true, is enumerated as being contained in the Halberstadt Museum; but the localities given in the Museum Heineanum are not always trustworthy. As a distinctive character, Dr. Cabanis says, "Bauch dunkelgrau, ebenso die Weichen, welche nicht weiss sind." Was he misled by Temminck's figure of *N. mystacalis*, with which Dr. Cabanis identifies *Æ. siparaja*? Dr. Stoliczka places some reliance on the tail being shorter than the wing in his examples. The two middle rectrices in the Malaccan *Æthopyga* are seemingly shorter in proportion than in *Æ. miles*. Out of six adult Pinang males, I find that the tail in three is shorter than the wing (2 inches). One has the tail an eighth of an inch longer than the wing. Two have the tail equal to the wing. But, according to Mr. Wallace (P. Z. S. 1863, p. 220), it may be inferred that a short tail is a characteristic of true *siparaja*. In the imperfect state of our knowledge of the relationship of the Sumatran and Malaccan *Æthopyga*, it seems to me more prudent to retain the title of the Sumatran species for that of Malacca, until it can be shown by comparisons made between actual examples that they specifically differ. Whether the Javan *N. mysticalis*, Temm,, and the Sumatran *C. siparaja*, Raffles, are identical, is much more open to dispute. Ibis, 1871, p. 167.

38. ARACHNECTHRA FLAMMAXILLARIS (Blyth).

The absence of a maroon pectoral band in *A. jugularis* (Linn.), as I have previously remarked, will probably be found to distinguish the Philippine from Mr. Blyth's species. Should, however, Dr. Stoliczka's surmise prove correct, a new fact in the distribution of the Philippine ornis will be established; for, so far as at present known, there is not a single instance of a Philippine species being found in the Malay peninsula and the remaining area of *A. flammaxillaris*, and yet nowhere else.

39. NECTAROPHILA MALACCENSIS (Scop.).

As I have already stated (Ibis, 1870, p. 48*), Javan and Malaccan examples of this species in no way differ.

40. ARACHNOTHERA MODESTA, Eyton.

Dr. Stoliczka observes, "This species is readily distinguished from the last (*N. malaccensis* ?) by its stout and short bill." What species is referred to?

49. PITTA GRANATINA, Temm.

This is the correct title for the Malaccan bird, unless the slight differences it exhibits are considered sufficient to separate it from the Bornean type. *P. venusta*, Temm., has not, I believe, been found out of Sumatra.

50. GEOCICHLA MODESTA (Eyton).

This title must give way to *Turdus rufulus*, Drapiez (1826), a bird of passage in Java. There can also be little doubt that it is the *T. pallens*, Pallas†. And if it is the *Pale Thrush* of Latham, *ex* Pennant, with which Pallas identified his *T. pallens*, it will have to stand as *T. pallidus*, Gm. The bird has been well figured in the 'Fauna Japonica,' pl. 27. I am unable to distinguish Ibis, 1871, p. 168.

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* [*Antea*, p. 90.—ED.]

† *Conf.* Blyth, Ibis, 1870, p. 167.

Malaccan examples from a Lake-Baikal individual. *T. chrysolaus*, Temm. *ap.* Godwin-Austen, J. A. S. B. xxxix. p. 102, no. 358, *ex* Jerd., is a female of *T. pallens*. This individual, obtained at Cherra Punji, exhibits the secondary coverts tipped with white, as shown in the 'Fauna Japonica,' a feature not always present. This species can scarcely be classed under *Geocichla*.

56. IORA TYPHIA (Linn.).

I. zeylonica (Gm.) was described from a Ceylon bird. Dr. Stoliczka states that "birds with the whole upper black plumage of *zeylonica* are never met with in Burma and the Malayan country." My experience of the species fully confirms this statement. And I may add that I have never seen a full-plumaged Ceylon male in the garb of a Burmese *I. typhia*. These two birds are additional instances to the many already known where the full plumage in the one species is more or less the female or young garb of another species. It is very likely that *I. zeylonica* and *I. typhia* interbreed at the extreme limits of their respective regions, in the same way as *Coracias indica* and *C. affinis*; but this in no way establishes their specific identity. I cannot find that Mr. Blyth has ever doubted the distinctness of the two species. He has, however, suggested the probability of hybrids occurring.

58. PHYLLORNIS JAVENSIS (Horsf.).

The identity of the Malayan with the Javan species has yet to be established.

59. PHYLLORNIS CYANOPOGON, Temm.

As described, the Province-Wellesley individuals do not agree with Temminck's species, in in which there is no yellow whatever. True *P. cyanopogon*, Temm., is sometimes sent from Malacca in collections.

60. PHYLLORNIS COCHINSINENSIS (Lath.).

This is Gmelin's title, bestowed by him on Montbeillard's "Verdin de la Cochinchine" (Hist. Nat. Ois. iii. p. 409). The type was figured in the 'Planches Enluminées,' no. 643. f. 2. Montbeillard affirms that it most certainly came from Cochin China, because it was contained in the
Ibis, 1871, p. 169.
same case with an "animal porte-musc" sent direct from that country. Temminck compared the type specimen in the Paris Museum with examples of a *Phyllornis* said by him to be sent in large numbers from Java and Sumatra, and states that they did not differ from the type. This species of *Phyllornis* Temminck figured (Pl. Col. 484. fig. 2) from a Javan example, and he refers to that Plate as containing the most exact resemblance of the species until then published. Montbeillard's account agrees well with the figure given by Temminck, and with Javan examples in my possession. But the bird remarked on by Dr. Stoliczka is a totally distinct species, namely *Phyllornis malabaricus* (auct. *ap.* Temm. Pl. Col. no. 512. fig. 2)=*Ph. icterocephalus*, Temm. *ap.* Bp. (1850), a title which I presume must stand, although never published by Temminck; for I cannot concur with Horsfield and Moore (Cat. E. I. Co. i. p. 411) in identifying the yellow-headed *Phyllornis* with *Chloropsis mysticalis*, Swains. (1838). Indeed Dr. Stoliczka's statement, that the female has the wings and tail coloured like the male, effectually disposes of any such

hypothesis. *Ph. mysticalis* is either the female of *Ph. cyanopogon*, Temm., or else of a species of which the male has not been described. *Phyllornis cochinsinensis* I have not as yet met with from the Malay peninsula.

61. CRINIGER GULARIS (Horsf.). (Plate VI. fig. 1, *in orig.*)

This title applies to the Javan species only—a distinct bird with the entire head rufous-brown and not ashy black. It is also a much larger form, with wings and tail about four inches long. *Lanius bres*, Lesson, Voy. Bélanger, p. 255, is synonymous. The Malaccan species, which I find on comparison is identical with the Sumatran, must stand as *C. phæocephalus* (Hartl.) (Plate VI. f. 2, *in orig.*). It has received the following titles:—

Ixos phæocephalus, Hartl. Rev. Zool. 1844, p. 401, *ex* Malacca.
Tricophorus caniceps, Less. *op. cit.* 1845, p. 367, *ex* India.
Pycnonotus rufocaudatus, Eyton, Ann. Mag. N. Hist. xvi. p. 228 (1845), *ex* Malacca.
Criniger cantori, Moore, P. Z. S. 1854, p. 279, *ex* Malacca.

Dr. Hartlaub's name must therefore be adopted.

66. IRENA PUELLA (Lath.).

Ibis, 1871, p. 170.

Dr. Stoliczka is of opinion that the three forms of *Irena* which I have lately discriminated (Ann. Nat. Hist. 4th ser. vol. v. p. 417 *), "should only be considered as local races of one and the same bird." A perusal of the grounds stated in support of this opinion leads me to the belief that the learned Doctor was not possessed of all the materials necessary to arrive at a sound conclusion. Thus the Javan *I. turcosa* is pronounced to be a local race, although Dr. Stoliczka tells us that he has "not seen Java specimens." Nor does our author in his history of *I. puella* appear to be very well acquainted with all the facts.

Dr. Stoliczka commences with this passage:—"It was, I think, Blyth who first pointed out, years ago, the constant smaller size of the Malayan as compared with the Indian bird; but, on account of the identity in coloration, he considered the two races as belonging to one and the same species, *I. puella*, Latham. There are probably few ornithologists who, after having seen large series of this species, would not follow Blyth in his determination." I will now quote what Mr. Blyth really did say:—"*Irena*, Horsfield. A curious distinction between the Indian and Malayan *I. puella* auctorum has been pointed out by Lord Arthur Hay, to whom we are indebted for the discrimination of numerous other closely allied forms. In the Malayan bird, the under tail-coverts reach to quite the end of the tail; while in *I. indica*, A. Hay, they are never less than an inch and a quarter short of the tail-tip in the males, and generally an inch short in the females. I have verified this observation upon so many examples from both regions, that there can be no doubt of the fact." (J. A. S. B. xv. pp. 308, 309.) It will be seen that not one word is said about coloration, or about "the constant smaller size." Nor has the relative size of the three species ever been alluded to by me, beyond my remark in the 'Annals' (*l. c.*) that in all three species the length of the wing is equal. So far as I have been able to observe, no appreciable difference of general size exists. But the Malabar bird has the tail a quarter of an inch longer than the Malayan and Javan. And it is this greater length of the rectrices, combined with the shorter coverts, that makes the discrepancy between the proportions of the rectrices and coverts so striking. Dr. Stoliczka further remarks, "One thing is certainly clear, namely, that the greater length of the tail-coverts in the Malayan bird, as compared with the Indian, is not *constant*"*. As we have seen above, in Mr. Blyth's opinion "there cannot be a doubt of the fact." And again, two years later, the same author (Cat. Calc. Mus. p. 214) specifies the Malayan race as "with lower tail-coverts, reaching to nearly end of tail;" and the Indian and Burmese race as "with constantly much shorter tail-coverts." The validity of this distinguishing character was also recognized by Horsfield and Moore (Cat. E. I. Co. Mus. i. p. 274); and Mr. Moore, while referring the Malabar bird to *Coracias puella*, Lath., named the Malayan *I. malayensis.*

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* [*Anteà*, pp. 96, 97.—ED.]

Ibis, 1871, p. 171.

I may add that since the year 1846 I have examined numbers of examples, both from Malabar and from the Malayan peninsula, and in adult birds I have invariably found them to be distinguished by the characters which I originally pointed out.

Dr. Stoliczka proceeds, "I can see no striking difference in the lazuline or blue coloration of ♂ and ♀ specimens from South India and those from Burma, and again between these and others from Malacca." I have never seen male examples of the Burmese *Irena*; but I must still insist that a striking, well-marked, and easily recognizable difference does exist between the blue colour of the Malabar and the Malayan-peninsula *Irena.* I have placed a series of examples from those two regions before indifferent persons, and they have in all cases, without hesitation, and by means of the colour alone, separated the Malabar from the Malayan and Sumatran form.

Whether the characters which, I still maintain, do distinguish the Malabar, the Malaccan, and the Javan species from one another are sufficient to entitle each to a separate specific designation is a fair matter of opinion. Yet the terms local variety, climatal variety, local race, geographical race, subspecies, &c., though an easy way of expressing indefinite ideas, seem artificial, as opposed to the term "species," so long as the term "species" does not involve the finite conception of fixity. The three titles *I. puella*, *I. cyanea*, *I. turcosa* represent three facts in Natural History—facts when considered side by side with others, either similar or opposite, of importance to the naturalist who is investigating the origin of species or the reasons of the present geographical distribution of animals.

Ibis, 1871, p. 172.

Dr. Stoliczka very rightly observes that the fauna of the hill-ranges of Malabar shows a decided affinity to the Malayan, although that country is separated by many hundreds of miles from the Indo-Malayan region. But hardly one Malabar bird is identical with an Indo-Malayan, unless it is also found occurring in the intervening countries. The Malabar *I. puella* is a case in point. The genus is Indo-Malayan, extending over Java, Borneo, and the Philippines to the eastward, and northwards to Assam, although not crossing the narrow Assam valley to the seemingly equally favourable slopes of the Himalayas. If the Malabar *Irena* were identical with either the Malaccan, the Javan, or the Philippine species, it would form an exception to this general law of diversity. Again, the avifauna of the Malaccan peninsula is almost identical with that of Sumatra. These two areas possess most of their species in common, and

* The italics are Dr. Stoliczka's.

representative forms are rare, if even known; and no difference can be detected between Sumatran and Malaccan examples of *Irena*. The ornis of Java differs considerably from that of Malacca and Sumatra; and the Javan *Irena* is also found to differ. Again, the Philippine ornis, though generally Indo-Malayan in its character, still contains genera not belonging to that region, and its relations are even more remote than those uniting Malabar, Malacca, and Java. The Philippine *Irena*, in conformity with the aberrant characters of its area, differs more from the Malabar, Malayan, and Javan species than they do among one another. Are we not then, by the bestowal of distinctive titles, to give currency to these facts because we happen to disagree in our definitions of the term "species"? Is it not begging the whole question of the origin of species, and the laws which govern their variation, to maintain that two forms palpably differing in certain constant characters are not different? As generally understood, the problem to be solved is, Why do they differ? Why does one member of a genus differ more widely from a given standard than another of its members? We shall never discover the solution if we start by refusing to acknowledge the facts presented to us by nature, or if we make the amount of difference necessary to establish a species an arbitrary matter of degree, dependant on individual opinion, and not on positive fact. Ibis, 1871, p. 173.

67. LANIUS LUCIONENSIS, Linn.

Probably *L. cristatus*, Linn., which certainly occurs in the Malay peninsula. I very much doubt the Nicobar and Andaman *habitat* of *L. lucionensis.*

68. LANIUS MAGNIROSTRIS, Less.

Lanius waldeni, Swinhoe, P. Z. S. 1870, p. 131, pl. xi., *ex* Szechuen, is nothing but this species in breeding-plumage; and I am much disposed to the opinion that *L. phœnicurus*, Pall., is *L. cristatus*, Linn., in breeding-plumage. Lake-Baikal examples are only to be distinguished from Indian by the purer rufous of the upper plumage and the purer white of the under. I have received *L. cristatus* from the N.W. Provinces of India.

69. TEPHRODORNIS SORDIDA, Wallace.

This is Lesson's specific title (Voy. Bél. p. 253, 1834) for *T. pondiceriana* (Gm.). *T. grisola*, Blyth (described J. A. S. B. 1842, p. 799, named *op. cit.*, 1843, p. 180 bis) is probably the species meant. It is again referred to by Mr. Blyth, *op. cit.* 1846, p. 305, where he states that he had received an undoubted specimen from Java and another from Penang. The type was shot by Mr. Blyth in the neighbourhood of Calcutta along with, curiously enough, a young individual of *T. pondiceriana.* It is included by Dr. Jerdon in his 'Birds of India' (i. p. 411).

The type of Swainson's genus *Tephrodornis* is *Lanius virgatus*, Temm.,=*Lanius gularis*, Raffles (if the Javan and Sumatran species are really identical, which has yet to be proved). *Tephrodornis* is therefore, on Dr. Stoliczka's own showing, equal to *Tenthaca*, Hodgs., the type of which is *Tenthaca pelvica*, Hodgs. The only generic title available for the other members of the group is *Keroula*, Gray.

Ibis, 1871, p. 174.

72. DISSEMURUS MALAYENSIS (A. Hay).

Is *D. rangoonensis* distinct from *D. malayensis*? In other words, is the Burmese species different from the inhabitant of the Malaccan peninsula? A want of examples has hitherto prevented a decision being come to on this point. *Edolius setifer*, Temm., is the Javan *Dissemurus*, and is distinct from the Malaccan.

73. PERICROCOTUS FLAMMEUS (Forster)?

From the account given it is impossible to decide what species is referred to. It must not be forgotten that Mr. Blyth, after comparing Assamese examples of *P. elegans* (M'Clelland) with *P. flammeus*, from Western India, was unable to distinguish them (Ibis, 1866, p. 369). *P. flammeus*, *ex* Java, can only be distinguished from true *P. flammeus*, *ex* Ceylon, by its smaller size, and by the outer edge of the last orange and black secondary being entirely orange, and not broken through with black. This distribution of colour, the orange-red of *P. flammeus* and its affines being replaced by crimson, is observable in *P. brevirostris*. Should it hold good in all Javan individuals, it will furnish a reliable distinguishing character, and the species will require a new title, unless the Javan bird is identical with *P. xanthogaster* (Raffles) *ex* Sumatra.

In all Burmese male individuals of *P. speciosus* (Lath.) which have come under my notice, the middle pair of rectrices have the outer webs wholly red, the inner webs only being black. I have never observed this peculiarity in either Himalayan or Central-Indian examples. The Burmese form is also smaller. An Assam example in Major Godwin-Austen's collection also exhibits this peculiarity.

76. COPSYCHUS MINDANENSIS (Gm.).

Mr. Blyth (J. A. S. B. 1847, p. 139) was, I believe, the first author who identified the Malayan D'hyal with the Philippine. Yet, so far as can be gathered, no comparison has ever been made between Philippine individuals and those found either in the Malayan peninsula or elsewhere. That a black and white D'hyal occurs in Mindanao may be inferred from what Dr. v. Martens says (J. f. O. 1866, p. 10). Montbeillard calls the species to which Gmelin gave the above title *Merle de Mindanao*, and states that it was brought home by Sonnerat. Were it not for the name bestowed, we should have no means of tracing its origin.

Ibis, 1871, p. 175.

Mr. Blyth (*l. c.*) separated the Ceylon and Malayan from the Indian *Copsychus*, on the ground that the female of this last was ashy above, while the females of the two former have the back of a much darker blackish ash. This distinction appears to be well founded. The Ceylon bird has received in consequence the title of *C. ceylonensis*, Sclater. The Malabar *Copsychus*, however, would seem also to belong to the Ceylon form. In the generality of Ceylon and Malabar examples the bill is extremely short; but in some it is scarcely less than in true *C. saularis*.

From both the Ceylon and Indian forms the Malayan is said by Mr. Blyth to differ (*l. c.*) by having only three (and not four) outer rectrices white. I have no Malaccan example to compare; but this distinction holds good in the Javan D'hyal, *C. amœnus* (Horsf.). And such is the case also in *C. pluto*. The D'hyals I have examined from all parts of India, Malabar excepted, from China, Cambodia, and Tonghoo, are not to be separated. At the same time the bills vary much in their dimensions. The nestling changes at once from its brown and rufous nestling-plumage into that of the adult. The pure white outer edges of the two secondaries appear in the earliest stages, even when the quills are still edged with pale rufous.

Comparison must be made between Malaccan, Sumatran, Javan, and Philippine individuals before the correct title for the Malaccan D'hyal can be determined.

77. CITTACINCLA MACRURA (Gm.).

I am unable to detect any characters whereby individuals from Ceylon, Central India, Malacca, Java, and Sumatra can be distinguished. A very young bird from the Salween river has the belly, thigh-coverts, and under tail-coverts pure white.

78. LOPHOCITTA GALERICULATA (Cuv.).

Platylophus, Sw. (Faun. Bor.-Amer. 1831), has precedence over *Lophocitta*, G. R. Gray *. This curious species is placed by Dr. Stoliczka under the *Ampelidæ*.

79. CALORNIS CANTOR (Gm.).

Ibis, 1871, p. 176.

Without having to decide the question whether the Philippine and Malaccan *Calornis* are the same species, we must suppress Gmelin's title *cantor*, Scopoli's name *panayensis* (founded, equally with Gmelin's, on Sonnerat's 73rd plate) having precedence. *Turdus chalybeus* is Horsfield's title for the Javan *Calornis*; *Turdus insidiator* that of Raffles for the Sumatran. The individual described by Dr. Stoliczka seems to be a young bird, and in that phase of plumage which misled Dr. Horsfield into describing the young Javan bird as distinct from *C. chalybeus*, under the name *T. strigatus*.

80. EULABES JAVANENSIS (Osbeck).

It is clear from the remarks made under this title that the learned Doctor has never had the Malaccan *E. javanensis* in his hands. Two species of *Eulabes* inhabit the Malayan peninsula:—one allied to, if not even identical with, *E. intermedia*, A. Hay, *ex* Nipaul and Tenasserim: and a second, closely related to *E. javanensis*, *ex* Java. The distinctness of these two species has never until now been questioned by any author. Professor Schlegel, an author who certainly does not admit the validity of a species off hand, has not only acknowledged the specific distinctness of *E. intermedia*, but has figured the bill, head, and lappets of *E. javanensis* and *E. intermedia* in the same Plate (Neder. Tijdsch. Dierk. i. p. 1), to exhibit the contrast.

E. intermedia was described by its author from Indian examples. At the time he was not aware that the same or a very closely allied form occurred in the Malayan peninsula. The title was chosen to denote the intermediate position *E. intermedia* occupied between the Cingalese and South-Indian *E. religiosa* (Linn.) and the Malaccan form *E. javanensis* (Osbeck). A comparison I have been able, recently, and for the first time, to make between the large Malaccan *Eulabes* and a Javan example of true *E. javanensis* (Osbeck) leads me to question the identity of even these two birds. Dr. Jerdon is perfectly correct in the dimensions he gives of the altitude of the bill of *E. javanensis*, *ex* Malacca. Its shortness, together with its great height, at once distinguishes this species from *E. intermedia*.

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* [Cf. Gray, Cat. Gen. B. App. no. 1042.—ED. of 'Ibis.']

Ibis, 1871, p. 177. I have again examined an Andaman example of *E. andamanensis*, Tytler, and still retain the opinion that it is distinct from *E. intermedia*.

81. Munia rubronigra, Hodgs.

Loxia sinensis, Gm., *ex* Sonnerat, and also of Latham, is a Greenfinch. Dr. Jerdon refers to *Coccothraustes sinensis*, Briss., founded on Edwards's 43rd Plate, in which a black mesial line is altogether wanting. True *M. malacca* (Linn.) does not appear to occur out of Ceylon and peninsular India, extending to Bengal. But the *Munia rubronigra* group extends to the Philippines and Celebes.

82. Munia maya (Linn.).

This is the Sumatran form, and may be indigenous to the Malay peninsula. *Munia ferruginosa* (Sparrm.) is the Javan form, and is perfectly distinct. Latham included it under Sparrman's title in the second supplement to the Synopsis, and adopted the name, without acknowledgment, in the supplement to his ' Index Ornithologicus.' *Loxia leucocephala*, Raffl., is a synonym of the Sumatran species, and *Fringilla majanoides*, Temm. (Pl. Col. 500. fig. 3), of the Javan.

88. Macropygia ruficeps (Temm.).

The Malaccan *Macropygia*, so far as I know, has never been satisfactorily identified. I have never met with an example; and it appears to be an extremely rare bird in collections. The Javan *M. ruficeps* is stated by Dr. Jerdon also to inhabit Tenasserim. Have examples been compared? The identity of the Malayan and Moluccan birds is most improbable.

90. Geopelia striata (Linn.).

Columba sinica, Linn., was founded on Albin's plate 46; and from it likewise Brisson took his description. Neither Albin's wretched drawing nor his account agrees well with this species. *Columba malaccensis*, Gm., is undoubtedly the Malayan and Mauritius bird. Gmelin bestowed the title on Sonnerat's *petite Tourterelle de Quéda*. Sonnerat described the species with great minuteness; and he added that it had been introduced into the Mauritius, where it had largely multiplied. Thus the type of *C. malaccensis*, Gm., came from a locality touching Province Wellesley.

On a new Species of Trichoglossus *from Celebes.* By ARTHUR, Viscount WALDEN, F.R.S., P.Z.S.

[From 'The Annals and Magazine of Natural History,' ser. 4, vol. viii., October 1871.]

A. M. N. H. ser. 4, vol. viii. p. 281.

A LARGE collection of birds obtained by Dr. A. B. Meyer in North Celebes, and kindly placed by him at my disposal for examination, contains several examples of a hitherto undescribed species of *Trichoglossus.* They evidently belong to the same species which supplied the individual referred to by Mr. Wallace (Proc. Zool. Soc. 1862, p. 337) as having been collected by him at Menado, but which was unfortunately destroyed before he had been able to identify it. He referred it, however, with some confidence, to *T. flavoviridis* of the Sula Islands. Dr. O. Finsch, in his well-known work (Papag. ii. p. 850), not deeming the evidence sufficient, restricted the range of *T. flavoviridis* to the Sula Islands; and the examples sent from Menado by Dr. Meyer fully justify this caution. The North-Celebean form, although possessing a general resemblance to *T. flavoviridis*, is a distinct species, chiefly differing by wanting the yellow head and breast and the black chin and nuchal collar of the Sula bird; in it also the bill is shorter and less produced.

TRICHOGLOSSUS MEYERI, n. sp.

Green; forehead, occiput, and nape dark olive-brown tinged with golden, most marked on the forehead. Cheeks and loreal plumes same as head, but each feather with a yellow border. Ear-coverts bright yellow, forming an isolated, distinct, yellow patch on each side of the head. Under surface one uniform tint of greenish yellow, each feather bordered with dark green. Interscapularies yellow at base, broadly bordered with the prevailing green of the back. Under tail- and wing-coverts light yellowish green. The ear-coverts are of the same shade of yellow as the breast-feathers in *T. flavoviridis*; and the plumage of the entire under surface closely resembles the abdominal covering of the Sula bird.

A. M. N. H. ser. 4, vol. viii. p. 282.

"Irides cherry-red, feet greyish blue, bill orange-red" (*Meyer*). Wing 4 inches; tail $2\frac{7}{8}$.

Dr. Meyer informs me that he possesses the bird alive at Menado, from the vicinity of which town his specimens were procured.

Notice of a new Species of Polihierax *from Burma.* By Viscount WALDEN, P.Z.S.

[From the 'Proceedings of the Zoological Society of London,' November 7, 1871.]

P. Z. S. 1871, p. 627.

MR. SCLATER exhibited, on behalf of the Viscount Walden, President of the Society, skins of both sexes of a new and most interesting Falconine bird of the genus *Polihierax*, which had been recently obtained in the vicinity of Tonghoo, in Burma, and transmitted to Lord Walden by Major Lloyd.

In this species, which Lord Walden was intending to describe and figure under the name *Polihierax insignis*, the whole of the back of the head in the female sex, as well as the upper back, was of a deep chestnut, being in the male grey striated with black. In both sexes the white plumage below was marked on the neck and breast with black shaft-stripes. The tail was black, P.Z.S.1871, p. 628. broadly barred with white, and very much rounded, the outer rectrices being more than an inch and a half shorter than the middle. The total length of the skin of the female was $10\frac{1}{4}$ inches, of the wing 6.

1872.

A. M. N. H. ser. 4, vol. ix. p. 47. *Description of a new Species of* Porzana *from the Himalayas.* By ARTHUR, Viscount WALDEN, P.Z.S. [From the 'Annals and Magazine of Natural History,' ser. 4, vol. ix., Jan. 1872.]

PORZANA BICOLOR, n. sp.

Chin greyish white, passing into pure grey on the throat; entire head, throat, neck, breast, abdomen, flanks, and thigh-coverts ashy grey; nape, back, uropygium, shoulder-coverts, and scapulars ferruginous olive; tail, upper and lower tail-coverts dark slate-colour, almost black; quills above ash-coloured, washed with light brown, underneath pale brown; under wing-coverts pale brown tinged with ashy; shoulder edge white, quill-shafts underneath white; bill black at the tip, dark green at base. Wing 4·50 inches; tarsus 1·50; middle toe 1·50; hallux 0·37, nails not included; bill from gape 1·12, from forehead 0·87.

This well-marked and handsome Rail was shot at Rungbee, Darjeeling.

Ibis, 1872, p. 93. *On Birds recently observed or obtained in the Island of Negros, Philippines.* By ARTHUR, Viscount WALDEN, P.Z.S., and EDGAR LEOPOLD LAYARD, F.Z.S. [From 'The Ibis,' April 1872, Plates IV.–VI. *in orig.*]

THE Philippine Islands supplied the materials for the earliest memoir on exotic birds that has come down to us, written by the Moravian Jesuit, Camel, in 1703 (Phil. Trans. vol. xxiii.). From examples collected in the Philippine archipelago by Poivre and by Sonnerat, descriptions of many of the oldest species in our books were taken. Still, even at the present time, our knowledge of Philippine ornithology continues to be of the most elementary character, only 193 species being noted (v. Martens, J. für O. 1866) as known to inhabit the large and diversified area contained within the limits of the archipelago—an area which occupies an estimated surface of 110,000 square miles of dry land. When we consider the favourable geographical position of these islands (closely connected with Borneo on the S.W., with Celebes on the S., and the Moluccas on the S.S.E., and lying in the direct tract of the migrants from north-eastern and eastern Asia), the Ibis, 1872, p. 94. varied physical characters of the islands themselves, their mountainous regions covered with vast unexplored forest, their broad tracts of open country devoid of all cultivation, the few ornithologists who have visited the archipelago (not exceeding eight in number) since the time of Sonnerat (1771), and that only three or four points were touched by them (Manilla, Antigua, Zamboanga), we may well believe that many new forms remained to be discovered, and many more known species to be recognized, by the first enterprising traveller who determines to explore thoroughly these almost unknown and attractive islands. We know of no part of the world that would more amply repay the zoological traveller. The climate is good, the country easy of access, and teems with animal life *.

In the mean time any additional contribution to our knowledge of the Philippine avifauna, however limited, is of exceptional value; and we therefore propose to give an account of a small collection of birds and of birds' eggs recently obtained in the island of Negros, by Mr. L. C. Layard. Many of his letters to his father, Mr. Edgar L. Layard, contain notes relating to the natural history of this island; and we propose to publish, as they were written, all those observations which bear on its ornithology, feeling sure that they will be found to contain matters of interest to the readers of 'The Ibis.'

The island of Negros is situated between latitude 9° 3′ and 10° 58′ N., and longitude 122° 28′ and 123° 29′ E. Its length may be roughly stated to be about 130 miles, its average breadth 25 miles, and its area 3780 square miles. It is separated from the Philippine islands of Panay on the N.W., and of Cebu or Zebu on the S.E., by narrow channels. Mr. L. Layard says in one of his letters, "I have a fine view from my window, the sea on one side, with Guimaras (a small island) and Panay in the distance on the other; fields of cane, enclosed by two rivers, and bordered by banana and cocoanut-trees, stretch up until they reach the forests and the mountains." A range of mountains with lofty peaks runs north and south through the island, the centre of which is little known even now. It appears to be inhabited by a small race of Negroes, called Negritos, from whom the island derives its name. Ibis, 1872, p. 95.

Mr. L. Layard writes—"Judging from my remembrance of Table Mountain, I should say that the range behind the Hacienda and the Koun Loun volcano must be nearly 5000 feet high. Their tops are very rugged and covered with trees; and they look very grand after a shower, when long streaks of cloud are caught halfway up them, and detached patches are scattered along their slopes, clinging to the trees."

These forests abound with cabinet-woods of great beauty and of the finest quality. The trees attain a vast height; "most of them have huge buttresses on each side, and then an immense trunk, rising, some of them, for upwards of 100 feet without a branch, and as round and as straight as an arrow. It is useless to fire at anything in the heads of these giants, unless with buck-shot. I was a long while under a flock of the large Hornbill (*Buceros hydrocorax*?); but it was of no use to fire at them. Most of the trees were covered with parasitic orchids, creepers, and climbing ferns of all descriptions; and the whole forest was alive with gay Parrots, Hornbills, gaudy red Woodpeckers, and butterflies of every hue. Several sorts of Pigeon were flying about; and we heard noises that the guide said were caused by a peculiar monkey, but we did not see any of them. There were lots of small dark-blue Swallows flitting about under the trees in the partially cleared places, which I had not seen elsewhere. On the outside the underwood had been cut down, and in its stead were the bright green leaves of the banana (hemp) plant standing in rows."

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* The only real danger which appears to attend travelling in some parts of the Philippines is caused by the piratical Malays. But, from a passage in one of Mr. L. Layard's letters, it would seem that Englishmen with proper introductions to the chiefs would run but little risk if *unaccompanied by Spaniards*.

The Parrots to which he alludes he afterwards obtained, and describes as "a large green Parrot, with a blue patch above the root of the tail, and a large red beak, out of which I took good care to keep my fingers." This is probably either *Tanygnathus muelleri* (Temm.) or else a new species. *T. muelleri* has been doubtfully stated to occur in the southern Philippines (*conf.* O. Finsch, Pap. ii. p. 360).

From the forest-clad mountains numerous rivers, abounding in fish and crocodiles, descend
Ibis, 1872. p. 96. to the sea, which equally swarms with sharks. Up one of these rivers Mr. L. Layard proceeded on one excursion. "We went about 40 miles down the coast in a little steamer to a place called Ponte Pedra. Next morning early we got a 'dug-out' and went up the river. It was very lovely, with huge trees drooping down to the water's edge on each side, but very lonely, as there were hardly any birds and no butterflies, only a few of the red and blue and blue and white Kinghunters (*Halcyon gularis* and *H. chloris*), and some Kingfishers about, a Dove or two flying overhead, and half a dozen Anhingas (*Plotus melanogaster*) in the water. We went out shooting in the afternoon; but it was cold and rainy, and we did not see half we ought to have seen in the river-bush. I shot two large white Cockatoos and some Doves, also a lizard, 3 feet long, with a sort of large fin on the root of his tail (*Hydrosaurus*?)*. The Cockatoos have bright red eyes, red feathers under the tail, and yellowish under the wing."

No specimens of this Parrot were preserved; but were it not for the expression "large" we should not hesitate to identify the bird with *Cacatua hæmaturopygia* (Müll.)=*Ps. philippinarum*, Gm. No other known species agrees with the above description, and no other Cockatoo has been described as an inhabitant of the Philippines. But the exact habitat of the true *C. philippinarum* itself has never been accurately determined; for that bird does not appear to have been seen wild by any trustworthy traveller. It is therefore to be regretted that we are unable to identify with absolute certainty the bird referred to by Mr. L. Layard. It is, however, probable that the term "large" was not used comparatively, and that in the Island of Negros we have at length discovered one point in the archipelago where *C. philippinarum* is indigenous.

In another of his notes Mr. L. Layard alludes to his bathing in the river, and mentions that "the Bee-eaters have a beautiful scarlet patch on the head; they frequent a bamboo clump, and sit on the lateral branches while I swim beneath; so I get a good view of them." No examples were secured, and we are unable to identify the bird. Mr. L. Layard, from African
Ibis, 1872. p. 97. experience, is well acquainted with *Merops*; and so there can be little doubt that he is correct in the genus. The species may possibly be a form of *Nyctiornis*.

The Kinghunters (*Halcyon gularis* and *H. chloris*) frequented the house and buildings of the sugar-factory. "Three of the latter keep about the old 'camarine' and the bamboo staging of the chimney; and I hope to get their eggs."

"A Wagtail, with a breast as yellow as a 'Seysie's" (*Crithagra sulphurata*), was also common —probably *Budytes viridis*. "A little 'Sun-bird,' with back of head and shoulders of a brilliant scarlet (probably *Dicæum cruentatum*), frequented some shrubs near, as did also a Flycatcher with a dull red throat and a white stripe along the eye." This last may be *Muscicapa mugimaki*, Temm. & Schl., a species which migrates from Siberia to Malacca (*Erythrosterna erythaca*, Blyth).

The eggs of *Halcyon chloris* were not obtained; but the eggs of a bird, the description of which agrees with *Calornis panayensis* (Scop.)=*cantor*, Gm., were secured. Mr. L. Layard states that this species breeds in the holes of the bamboo staging erected round the engine-house chimney, to catch the bricks in case of its being shaken down by an earthquake, and thus avert the serious accidents that might result from its fall.

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* [This may be *H. nuchalis*, described by Dr. Günther in P. Z. S. for February last, which we have some reason to believe may have come from Negros.—Ed. of 'Ibis.']

The eggs are of various shades of verditer, blotched somewhat sparsely, but thickest at the obtuse end, with irregularly shaped spots and blotches of dark brown, madder, and faint purple. Axis 13‴, diam. 9½‴.

Mr. L. Layard says that these birds fly in small flocks, and that their habits reminded him of the Cape *Juida morio.* The irides he describes as red.

Besides the little blue Swallow already noted, Mr. L. Layard mentions "a small dark Swift" (a *Collocalia* ?, one of the products of the island being edible birds' nests), and a Swallow, the common one of the country, probably *Hypurolepsis javanica* (Sparrm.), of which he sends four eggs. Unfortunately no description of this bird or of its nest is given. The eggs are of a dirty pink ground, profusely sprinkled with dark madder-coloured spots, which are notably coarsest and closest set at the obtuse end, with a faint indication of some light purple ones in the form of a ring. Axis 9‴, diam. 6‴; but they vary in shape, some being longer and narrower.

Ibis, 1872, p. 98.

On the 2nd February an excursion was made to the Island of Guimaras, situated in the channel which separates Panay from Negros. Besides two large Hornbills, twelve examples of a large fruit-eating Pigeon, apparently an undescribed species, *Ianthœnas griseogularis*, nob., were obtained.

The tameness of some of the Falconidæ is illustrated in the following passage:—"We are awfully bothered with locusts; but it is a curious sight, the men all assembled and beating old tins to drive them away, the great red-backed Kites (*Haliastur indus* ?) swooping down and catching them in their feet and eating them in the air, and lots of smaller Hawks, Flycatchers, and Swallows harrying the swarm; and then the sound of their rushing wings!!" "There is one fine Hawk about the size of *Circus maurus*, white breast, black head and throat, and white wings tipped with black (*Circus melanoleucus* ?), and another beautiful little Hawk very much like the one we shot with Capt. B. on the Flats near the windmills (this was *Hypotriorchis subbuteo*). He sat in a tree eating his locust, and would not fly, though I twice struck the branch beneath him with a stone. I have not yet got my gun out of the clutches of the Spanish Custom-House, or he would have come to grief." (This is probably *Falco severus.*)

The want of his gun prevented Mr. L. Layard obtaining many of the birds observed. The Spanish Customs' authorities detained his gun (a double-barrel 12-bore Westley Richards) for many months on the plea that it was a "pea"-rifle! It appears it is necessary to get a license from the Spanish authorities to live in the islands, and another to possess and use a gun.

"Last week coming out of the 'camarine,' I saw a fine Eagle hovering just over my head, and its mate higher up. How I longed for my gun! It was a whity brown, with a large white tail, and as big as any of our Cape Eagles. It is evidently a rare species, as I have only seen these two. One was shot by a Middy some months ago, and the foot is still here; it is large." He saw the species again, "sailing along the coast, and nearly got a shot at one" (*Cuncuma leucogaster* ?).

Ibis, 1872, p. 99.

The rainy season commences on the western coasts of the Philippines at the end of April, and continues to September, the eastern coasts being dry until October, when they, in their turn, become subject to heavy rains. Mr. L. Layard thus alludes to the ushering in of the May monsoon:—"The monsoon broke on the 25th of April, and Snipe and Ducks are beginning to come in with the rains; I have shot two Curlews also. Last week I was riding round, and a pair of Ducks in a buffalo wallow let me ride up to them within ten yards. I galloped home, loaded the one barrel of L.'s rusty old gun, that had a nipple in, and returned. They were still there, and I took one as they rose. They are fine birds, as large as a 'Geelbec' (*Anas flavirostris*), pearly-grey bodies, reddish heads, and blue-striped wings—first-rate eating! There is also another Duck in the island, smaller, and more red about it. They are called here 'Gatek.' I bagged five of them at Samag last week." The small species is probably *Dendrocygna vagans*; the larger we are unable, for want of an example, to identify. The description given above does not agree with any one of the only four species of Ducks known to inhabit the Philippines.

The following list contains the names of the species represented by examples sent to England. An account of the eggs collected is added.

CHRYSOCOLAPTES XANTHOCEPHALUS, sp. nov. (Plate IV. *in orig.*)

Entire head, including the normal generic crest, chin, cheeks, and ear-coverts, and the whole under surface of body, except the throat and breast, pure golden yellow, brightest on crest. A very faint mesial chin-line, and two equally faint lines following the rami of the mandible, brown. Throat and breast covered with scale-like golden-fulvous feathers, each being broadly and distinctly bordered with black. Back, uropygium, wing-coverts, and secondary quills carmine. Upper tail-coverts and rectrices deep brown. Primary and spurious quills dark brown, the outer edges of the spurious quills, and the outer edges of the basal half of the primaries being golden olive.

Ibis, 1872, p. 100.

First primary unspotted, but with white indicated at the inner edge of web near the insertion. Two white spots on inner edge of second quill, somewhat ill-defined and barely separated. Third quill with two well-marked and separate white spots. Fourth quill like third, but with an additional faintly marked and smaller spot. Fifth and sixth quills with three clear white spots. Three spots on the inner webs of the remaining quills, both primary and secondary. Under shoulder-coverts mottled dirty golden and brown, with carmine tips. "Bill and feet horn-colour; eyes white (?)."

Wing 6 inches; tail 4; bill from forehead 1·5, from gape 1·75; outer hind toe 1·12; outer front toe 0·87; tarsus 1·12.

Described from a single individual obtained in the Island of Negros, and stated on the label to be a female.

The carmine dorsal colouring of this species closely resembles that of *Ch. carlotta* * (Malh.), *Ch. hæmatribon* (Wagler), and *Brachypternus erythronotus* (Vieill.) *apud* Malh.

The male bird may prove to possess a red head, as in the rest of the genus.

XANTHOLÆMA ROSEA (Cuv.): R. A. 1817, i. p. 428, *ex* Levaillant.

Le Barbu rose gorge, Levaillant, Ois. Parad. ii. 75, pl. 33, "Java."

"♂, iris brown; feet coral; bill black; stomach, beetles. Island of Negros."

The bill in this example is somewhat larger than in Javan individuals; otherwise no material difference can be detected between specimens from the two localities.

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* A true and typical *Chrysocolaptes*, although classed as a *Brachypternus* in the Hand-List, no. 8748.

Eurystomus orientalis (Linn.): S. N. i. p. 159, no. 4 (1766), *ex* Brisson.

Galgulus indicus, Briss. Ornith. ii. p. 75. no. 4, pl. 7. f. 2, "India orientalis."

"♂, iris brown; bill and feet red. Shot in the forest, Island of Negros, March."

Agrees in every respect with examples from Menado and Malacca.

Entomobia gularis (Kuhl): Sharpe, Mon. Alced. pl. 70, p. 165. Ibis, 1872, p. 101.

Three specimens collected, two males and one female, in full plumage. They do not differ from Luzon examples in Lord Walden's collection, nor is any sexual distinction to be detected.

"*a.* ♂, iris light brown, bill brick-red, feet coral; stomach, worms; shot in a ploughed field.

"*b.* ♂, stomach, small fish; shot on river-bank.

"*c.* ♀, iris light brown, bill brick-red, feet coral; stomach contained large grubs."

Sauropatis chloris (Bodd.): Sharpe, Mon. Alced. pl. 87, p. 229.

Alcedo collaris, Scopoli, Fl. et Faun. Insubr. ii. p. 90. no. 56 (1786), *ex* Sonnerat.

"♂, iris brown; feet dark brown; bill black; stomach, small crab. March, Island of Negros."

Petrocossyphus solitarius (Müll.): Suppl. p. 142. no. 46, *ex* Pl. Enl. 636.

"♂, iris brown; bill and feet almost black; stomach, seeds; frequents old buildings, rare. Negros, March.

Broderipus acrorhynchus (Vigors): P. Z. S. 1830–31, p. 97, "Manilla:" Gray and Mitchell, Genera, pl. 58.

"♀, bill pink; feet black; stomach, seeds. Island of Negros."

Mr. Gray (H.-l. no. 4305) has suppressed Vigors's title for the Philippine Oriole and adopted *chinensis*, Linn. In this rectification we are unable to concur:—first, because the Linnean type was brought from Cochin China by Poivre and given to Réaumur (Brisson, Orn. ii. p. 328); secondly, because Brisson, who described from Poivre's example, distinctly states (*l. c.*), "*alarum remiges sunt nigræ: ex minoribus tamen aliquot exiguâ maculâ flavicante terminantur.*"

B. acrorhynchus and *B. frontalis* (Wall.) appear to be the only two known species in which the yellow wing-spot is wanting.

Copsychus mindanensis (Gm.): S. N. i. p. 823. no. 76, *ex* Montbeillard. Ibis, 1872, p. 102.

Le Merle de Mindanao, Montb. Hist. Nat. iii. p. 387; Pl. Enl. 627. f. 1.

"Iris brown; bill and feet black; stomach, insects. Island of Negros."

The single specimen sent has the under wing-coverts entirely black as in *C. pluto* (Temm.). This at once distinguishes the Negros bird from the Dhyals of India, Ceylon, Burma, Malayan peninsula, and Java. Unfortunately the Negros example possesses only eight perfect rectrices; but these are entirely black. The stump of a ninth, however, is present; and it, as far as it remains, is also black. It may be inferred, therefore, that at least ten of the rectrices of the Negros *Copsychus* are black, and it may be possible that all the twelve are black. Without other Philippine examples to compare with, it cannot be decided whether this Negros individual agrees with the Mindanao species. But for the present it is proposed to regard the two as identical.

The Malayan and Javan *Copsychus* hitherto referred to *Turdus mindanensis*, Gm., differs from this Negros individual in having six white outer rectrices, and in having the under wing-coverts white centred with black. These characteristics have been verified by an examination of a considerable series of Malayan-peninsular and Javan specimens. As is well known, Indian, Cingalese, and Burmese examples have the under wing-coverts pure white, and possess eight white rectrices.

The oldest title for the Malayan and Javan *Copsychus* appears to be *Lanius musicus*, Raffles, Tr. Linn. Soc. xiii. p. 307 (1822), given to the Sumatran species, which in all probability will be found to agree with the Malayan and Javan.

In many individuals of *C. saularis* the fourth pair of rectrices, and in *C. musicus* the third pair, are more or less brown or black.

Hypothymis azurea (Bodd.).

Gobemouche bleu des Philippines, Montb. Hist. Nat. iv. 534.

Muscicapa cærulea, Gm., Kittlitz, Kupf. p. 7, t. 9. f. 1.

Muscicapa occipitalis, Vigors, P. Z. S. 1830–31, p. 97, "Manilla."

Ibis, 1872, p. 103. An example sent does not differ from Indian and Ceylon individuals. By Montbeillard's title it appears that the type came from the Philippines.

Dicrurus mirabilis, sp. n. (Plate V. *in orig.*)

Lower breast, abdominal region, flanks, and under tail-coverts pure white. Remainder of plumage black, with glossy green reflections. Tail but slightly forked, Bill black. Wing 5·5; tail, outer rectrix 5·37, middle pair 5; bill from forehead 1·18, from gape 1·37; hallux 0·50; tarsus 0·87.

From a single example, sex not noted, Island of Negros. "Eyes black (?), feet and legs black. High in the mountain forests. Stomach, insects. Usually in pairs; scarce, only saw them one day." The colour here given of the irides requires confirmation.

This species belongs to the group of which *D. balicassius* (Linn.) is the type, and the members of which are principally Papuan. In the shallow bifurcation of the tail it comes nearest to *D. balicassius.* No other species of this genus as restricted displays any white in the plumage, beyond the usual white markings of the under wing-coverts, found more or less to prevail throughout the *Dicruridæ*. Its analogue in *Buchanga* is *B. fingah* (Linn.).

Gymnops calvus (Linn.): S. N. i. p. 164. no. 2 (1766), *ex* Brisson.

Merula calva, Brisson, Orn. ii. p. 280. no. 36, pl. xxvi. f. 2, "Philippine Islands" (1760), descr. orig.

Le Goulin, Montb. Hist. Nat. iii. p. 420.

Gracula calva, Gm. S. N. i. p. 396, no. 2.

Le Goulin gris, Cuv. R. A. 1829, i. p. 381.

Gracula calva, Linn. *ap.* Kittlitz, Kupf. p. 9, pl. xiii. f. 2.

Gymnops griseus, Cuv. *ap.* Meyen, N. Act. Acad. C. L.-C. Nat. Cur. vol. xvi., Suppl. 1. p. 78.

Gymnops tricolor (Müller), *ap.* G. R. Gray, Hand-list no. 6275, *nec* Müller.

One specimen sent. "♀, iris brown; bill and feet black; stomach, seeds. Shot on a cocoa-nut tree, Island of Negros."

Montbeillard (*l. c.*) has described apparently two totally distinct species of bald Grakles from the Philippines under his title of *Le Goulin*. One, brought from the Philippines by Sonnerat, is identical with Brisson's *Merula calva*; the other, which is the species figured in the 'Planches Enluminées,' no. 200, has never since been recognized. This last is stated by Montbeillard to be smaller, to have the under plumage yellowish brown, and the feet, legs, and the anterior portion of the bill, *yellow*. The figure also (Pl. Enl. 200) certainly represents a bird widely differing from *Gracula calva* auct. Montbeillard (*l. c.*) further remarks that the bald-headed bird brought from the Philippines by Sonnerat, although much resembling the bird figured, yet differs in its size and its plumage. The smaller bird (Pl. Enl. 200), he surmises, may be the young. Kittlitz (*l. c.*) states that the sexes are alike in plumage, but the female is smaller. No title has been founded on Pl. Enl. 200. Nor has Cuvier anywhere published the name *griseus* usually attributed to him. Mr. G. R. Gray (*l. c.*) has superseded the appellation *calvus*, Gm., by that of *tricolor*, Müller, and quotes Pl. Enl. 200. There seems, however, to be no authority for discarding the time-honoured name of *calvus*, even if it had only originated with Gmelin and not with Linnæus. Müller's *Corvus tricolor* was founded on Pl. Enl. 521,=*Corvus* (*Gymnocephalus*) *calvus*, Gm., not *Gracula calva*, Gm. Müller has not bestowed any name on the bird figured in Pl. Enl. 200, nor on *Merula calva*, Brisson. Ibis, 1872, p. 104.

PHAPITRERON LEUCOTIS (Temm.): Pl. Col. 189.

"♀, iris brown; bill black; feet coral; stomach, small chilies. Island of Negros."

IANTHŒNAS GRISEOGULARIS, sp. nov. (Plate VI. *in orig.*)

Upper surface of head from bill to nape grey, brilliantly tinted with light purple. Chin, cheeks, ear-coverts, and throat pale grey, faintly tinged on sides of head with vinous. Nape and neck green, but changing in some lights to ashy tinted with bright purple. Breast beautiful, uniform, bright purple, changing in some lights to greenish ashy, as in shot silk. Abdomen, flanks, thigh-coverts, ventral region, and under tail-coverts dark ashy, many of the feathers being edged with the purple colour of the breast. Back and uropygium ashy brown, shot with the bright purple of the breast and changing to greenish ashy. Scapulars and wing-coverts brown, with distinct purple margins. Quills, rectrices, and upper tail-coverts ashy-brown, paler on under surface. In the example sent only twelve rectrices are to be detected. The colouring of the plumage is so iridescent that it is difficult to describe accurately. Ibis, 1872, p. 105.

Wing 8·50; tail 6·75; bill from forehead 0·81, from gape 1·13; hallux 0·62; tarsus 1·12. Feet red; bill red at base and yellow at the tip. Shot on the Island of Guimaras.

BUTORIDES JAVANICA (Horsf.): Tr. Linn. Soc. xiii. p. 190. "Java."

Island of Negros. Example sent is smaller in all its dimensions than individuals from Ceylon and North-west India. Wing 6·50, bill from forehead 2·38.

GLAREOLA ORIENTALIS, Leach, Tr. Linn. Soc. xiii. p. 132, pl. xiii. figs. 1 and 2. "Java" (May 2, 1820).

"♀, iris brown; bill and legs black; stomach, small worms. March."

In full adult summer plumage.

Squatarola helvetica (Linn.): S. N. i. p. 250. no. 12.

" ♀, iris brown; bill black, legs green; stomach, shrimps and sea-worms. March."

Charadrius fulvus, Gm. S. N. i. 687. no. 18.

" ♀, iris brown; bill black, feet green; stomach, shrimps and sea-worms. March." In winter plumage, showing no trace of a change to the breeding-dress.

The following notes relate to the eggs in Mr. Layard's collection.

Rhipidura nigritorquis, Vigors?

The nest and eggs of a Fly-catcher are sent, which is described as being "brown above, with a white throat and breast with a darker collar between. A white bar extends across the end of a broad tail, which it flirts about, constantly opening and shutting it. Two weeks ago [writing February 20th], whilst swimming in the river, I caught sight of its nest in a prickly bamboo-clump. It was built in a fork almost over the water, and is exactly like that of *Tchitrea cristata*, of the Cape of Good Hope. If I had not found that at the Cape, I should never have remarked this. Last Sunday there were two eggs in it exactly like a Fiscal's (*Lanius collaris*), only smaller of course. I cut out and brought home nest and eggs." Ibis, 1872, p. 106.

The nest sent home is a very beautiful structure, composed of fine fibres, roots, and hairs, most artistically constructed on a lateral bamboo shoot, at the junction of two other smaller branchlets. It is very closely woven, and so densely covered on the outside with cobwebs as to be almost impervious to light. It has no lining, and is perfectly round and cup-shaped inside, having a diameter of $2\frac{3}{4}$ inches, with a depth of $1\frac{1}{4}$ inch; thickness of walls $\frac{1}{4}$ inch. The base is prolonged into a funnel-shaped cone, the pipe being composed of coarse bents of dry grass loosely hanging together. Its resemblance to the nests fabricated by all the *Tchitreæ* is apparent.

The eggs are of a pale creamy-grey colour, marked (in the form of a ring) at the obtuse end with close-set, often coalescing, small, faint purplish and brown spots; some of these are faintly visible over the rest of the shell. Axis 9‴, diam. $6\frac{1}{2}$‴.

Munia jagori, Cab.?

"Eggs of a little Amadavat, with red body and black head." These are probably the eggs of the little *Munia jagori*, which accords with this description. They are pure white. Axis 7‴, diam. 5‴.

Corydalla malayana (Eyton)?

"Two sets of Larks' eggs." These are unaccompanied by any description; they may be those of *C. malayana*, or of an undescribed species. They evidently belong to the same bird, though two are somewhat darker than the other three. They are of a pale-grey ground, profusely speckled (chiefly at the obtuse end, and in some in the form of a ring) with minute brown and purplish specks. Axis 10‴, diam. 8‴.

Excalfactoria chinensis (Linn.)?

A single "egg of a Quail" we suppose to belong to this species. Mr. L. Layard describes the bird as not uncommon. The egg is of a darkish brown generally, but irregularly speckled and blotched with very dark madder-brown specks and blotches of various sizes. Axis 12‴, diam. 9‴.

Ibis, 1872, p. 107.

Turnix ocellata (Scop.)?

A second Quail's egg is sent, which, from our knowledge of eggs of birds of this genus, we fully believe to belong to this species.

It is of a dirty pale-brown ground, profusely spotted with black and dark-brown speckles, chiefly at the obtuse end. The small end is rather acutely pointed. Axis 12‴, diam. 8‴.

Description of a supposed new Species of Cuckoo from Celebes. By Arthur, Viscount Walden, P.Z.S. [From the 'Annals and Magazine of Natural History,' ser. 4, vol. ix., April 1872.]

A. M. N. H. ser. 4, vol. ix. p. 305.

Hierococcyx crassirostris, n. sp.

A collection of birds recently made in North Celebes by Dr. Meyer contains two examples of a Cuculine form which appears to be undescribed. They severally represent a distinct and very marked phase of plumage. Yet neither can be affirmed to have attained its full livery. One example is in the "hepatic" stage, the other may be wearing the adult garb.

Example No. 1, hepatic plumage, has the nape, back, upper tail-coverts, upper surface of the wings, and the quills bright chestnut. The nuchal feathers, which are white at their base, are broadly fringed with black, giving a barred appearance to the nape. The interscapulars are obscurely edged with brown. The shoulder-coverts have black subterminal marks, or are else faintly clouded with black markings. The quills are almost of a uniform chestnut above and below; subterminally they are more or less clouded with brown. The inner webs at their insertions are pure white, which descends for about one-third of their length. There are no bands or bars on either surface of the quills. The under shoulder- and tail-coverts are pure cream-colour, devoid of any markings. The middle pair of rectrices are broadly banded with black. The intervals between the black bands, and which are much narrower than the black bands, are bright chestnut on the outer edges, but pure white near the shaft. The two portions of each band divided by the intervening shaft are unsymmetrical. The remaining pairs are also broadly banded with black, but the intervals are less chestnut, becoming nearly all white in the fifth pair. In this outer pair the bands are nearly symmetrical. All the rectrices are broadly tipped with pure white. The shafts assume the colour of the webs they support. The under surface of the body is rich creamy white, a few of the feathers with a broad, bold, black, transverse band. On the breast a black band or collar, formed by each feather being crossed by a subterminal black bar. Head black mixed with ferruginous, the base of the feathers being pure white. Cheeks

A. M. N. H. ser. 4, vol. ix. p. 306.

and sides of the head and neck covered with creamy-white feathers tipped with black. Bill horn-brown. Legs, feet, and nails yellow.

Example No. 2 has the under surface pure white, each feather with a broad black band or spot, which is again edged with white. Under tail- and shoulder-coverts and inner webs of the quills for half their basal length pure white. Head and cheeks ashy-grey. Nuchal feathers white at base, with greyish-brown terminations. Back, wings, and upper tail-coverts ferruginous brown, the ferruginous tint predominating. Upper surface of the quills brown, with ferruginous borders. Under surface paler brown, tinged with light ferruginous. Middle pair of rectrices ferruginous brown, with one broad subterminal black band. Faint traces of pure white on each side of the shaft at intervals. The outer rectrices are broadly banded with black and white. In some the white is irregularly clouded with ferruginous brown. All are narrowly tipped with white. Bill horn-brown; lower mandible at base greenish yellow. Legs, feet, and nails yellow.

		Longitudo		
	Rostr. a nar.	Alæ.	Caudæ.	Tarsi.
No. 1.	·87	7·75	8	1
No. 2.	·87	8	8	1

In both examples the third and fourth quills are equal and longest; the second is equal to the fifth. The outer pair of rectrices are much shorter than the others. The bill is exceedingly high and stout. The total absence of markings on the quills and under shoulder-coverts, and the extremely stout bill, distinguish this Cuckoo from all known forms. Although a much smaller bird than *H. sparverioides* (Gould), its bill is fully twice as deep.

A. M. N. H. ser. 4, vol. ix. p. 398.

On some supposed new Species of Birds from Celebes and the Togian Islands. By ARTHUR, Viscount WALDEN, P.Z.S., F.R.S. [From the 'Annals and Magazine of Natural History,' ser. 4, vol. ix., May 1872.]

THE following five species of birds were obtained by Dr. Meyer, three on the mainland of Celebes and two in the small islands of the Togian or Schildpad group in the Gulf of Tomini or Gorontalo. That two distinct species should inhabit these small land-locked islands and yet not be known to occur on the neighbouring mainland of Celebes is another of those instances of the isolation of species and their restriction to small areas so numerous in the Indian archipelago. One of the two species belong to a genus, *Criniger*, not as yet observed in Celebes although occurring in the Sula Islands. The other is a *Loriculus*, combining some of the characters of the Sula species, *L. sclateri*, with those of the Celebean, *L. stigmatus*. It is, however, not improbable that these Togian species, although not found in North Celebes (Gorontalo, Minahassa), may yet be proved to inhabit the more southerly eastern limb (Bangaai and Ternate), a mountainous and as yet unexplored region.

Loriculus quadricolor, n. sp.

Adult male. Bright green; crown and edge of shoulder scarlet; rump, upper tail-coverts, chin, and throat deep blood-red; interscapulars and back bright golden; quills black, half the inner web of each quill verditer-blue; entire under surface of rectrices verditer-blue; bill black; feet yellow.

Male, immature. Faint indications of a few scarlet feathers on the forehead; a small red spot on the throat; edge of the shoulder scarlet mixed with yellow; upper tail-coverts and rump and remainder of plumage as in the adult. This stage closely resembles the adult plumage of *L. wallacei*, G. R. Gray.

Male, still younger. Forehead, throat-spot, and edge of wing yellow, mixed with minute traces of scarlet; rump mixed red and green; upper tail-coverts as in adult; interscapulars golden; remainder of plumage of a less bright green than in adult.

Female. The only example sent and thus marked by Dr. Meyer is not quite adult. The head is entirely green, the chin and throat scarlet, the shoulder-edge yellow, interscapulars golden, back mixed green and golden, remainder of plumage as in adult male.

	Longitudo			
	Rostr. a nar.	Alæ.	Caudæ.	Tarsi.
♂ adult	0·37	3·69	1·88	0·37
♀	0·31	3·50	1·63	0·37

This species is intermediate between *L. stigmatus* (Müller & Schlegel) and *L. wallacei*, G. R. Gray. In dimensions the three are about equal. From *L. wallacei* it differs by having a scarlet cap, by the golden of the back reaching to the nape, by the darker red of the uropygium and upper tail-coverts, and by the sexes differing; from *L. stigmatus* by the golden back, by the chin and throat-spot being much smaller, and the red of the uropygium not being quite so dark. All the examples sent are from the Togian Islands. A. M. N. H. ser. 4, vol. ix. p. 399.

Myzomela chloroptera, n. sp.

Entire head, excepting the space in front of the eyes (which is black), back, upper tail-coverts, chin, throat, and breast scarlet; abdomen, ventral region, under tail-coverts, and flanks pale greenish fulvous, each feather dark centred with ashy; wing-coverts and quills dark brown, with bright yellowish-green outer edgings; scapulars dark brown, without any other colour; tail dark brown; under wing-coverts pure white; inner edging of the quills after the first two white; bill and feet black.

Longitudo			
Rostr. a nar.	Alæ.	Caudæ.	Tarsi.
0·37	2·18	1·75	0·62

Sent from Celebes by Dr. Meyer. The examples are in such bad order that it is not possible to discover whether the scarlet of the upper plumage is continuous or whether it is interrupted by brown on the nape.

This bird very nearly resembles the figure given by Audebert and Vieillot (Ois. Dorés, ii. p. 113, pl. 54), and drawn by Edwards, of Latham's *Scarlet Creeper* (Synop. i. p. 740), =*Certhia rubra*, Gm., and described from an example in the Leverian Museum said to have come from the South Seas. But Latham describes "the lower part of the belly and vent" as white, and the wings as black.

HYLOTERPE SULFURIVENTER, n. sp.

A. M. N. H. ser. 4. vol. ix. p. 400.

Chin, cheeks, and throat silky white, changing into pale brown on the upper part of the breast; lower part of the breast pale sulphur-yellow; abdomen and under tail-coverts bright sulphur-yellow, most intense on the under-coverts; head dark olive-brown, back and wings a lighter shade; uropygium and upper tail-coverts with a ferruginous tinge; rectrices and outer webs of quills like the back; inner edges of the quills albescent; under carpal coverts yellowish white; axillaries white, with sulphur-coloured tips; shoulder-edge sulphur-yellow; 1st primary half the length of the 2nd, which is much shorter than the 3rd; the 3rd somewhat shorter than 4th, and shorter than the 6th; the 4th and 5th equal and longest.

Longitudo.

Rostr. a nar.	Alæ.	Caudæ.	Tarsi.
0·32	3·25	3	0·75

Two examples of this species have been obtained in North Celebes by Dr. Meyer.

CRINIGER AUREUS, n. sp.

Under surface bright golden yellow; upper dark golden olive, darkest on the head, ear-coverts, and cheek; uropygium lighter in shade than the back, upper tail-coverts still more golden; upper surface of wings like the back; quills on their inner webs brown, outer webs edged with golden olive; under shoulder-coverts bright golden; inner webs of primaries, commencing with the second and increasing in extent on each succeeding quill, bordered with bright yellow; upper surface of rectrices dull golden rufous, each feather terminated by a pure golden narrow band; inner edges of all the rectrices, except the middle pair, pale yellow as seen from above, bright yellow below; the darker cheeks contrast strongly with the golden yellow of the chin and throat; lores yellow; bill and legs black.

Longitudo

Rost. a nar.	Alæ.	Caudæ.	Tarsi.
0·63	4·88	4·63	0·75

Described from a male obtained by Dr. Meyer in the Togian Islands.

This species is nearly allied to *C. longirostris*, Wallace, but differs by being somewhat smaller, by having a much shorter bill, and by the bright golden colouring of its plumage.

Cisticola grayi, n. sp.

Forehead, crown, nape, sides of neck, breast, abdomen, flanks, under and upper tail-coverts, and under carpal coverts unspotted rufo-fulvous, most intense on the head; back and quills dark brown, edged with rufo-fulvous; rectrices dark brown, tipped with rufo-fulvous.

Longitudo			
Rostr. a nar.	Alæ.	Caudæ.	Tarsi.
0·37	1·75	1·62	0·75

Obtained in Celebes by Dr. Meyer, and represented by a single example in such bad order that I am unable to describe it more minutely. Many of the abdominal feathers seem to be pure white, and the chin, throat, and ear-coverts to be pale fulvous. A. M. N. H. ser. 4, vol. ix. p. 401.

A List of the Birds known to inhabit the Island of Celebes. By Arthur, Viscount Walden, F.R.S., President of the Society. [From the 'Transactions of the Zoological Society,' vol. viii. part ii. May 1872 *, Plates III.–X. *in orig.*] Tr. Z. S. viii. p. 23.

Situated in the midst of the vast collection of islands which contribute to form the Malay archipelago, Celebes possesses an avifauna of a type peculiar to itself. The geographical position of the island and the leading characteristics of its fauna have been so clearly explained and depicted by Mr. Wallace †, that it is almost unnecessary for me to add any observations of my own on these points.

This great naturalist has shown that the principal and most striking peculiarity of the fauna of Celebes is its individuality—a generalization fully supported by the evidence furnished by its birds; and it is the chief object of this paper to give a list of all the birds authentically recorded as inhabitants of Celebes, and to show in some detail the zoogeographical relations of its genera and species.

Our knowledge of the Celebean ornis has been principally derived from the discoveries of the Dutch travellers Forsten, Von Rosenberg, and Bernstein, and from those of Mr. Wallace. Yet although the Dutch naturalists and our great English traveller ransacked those parts of Celebes they traversed or resided in, they all more or less covered the same ground. The larger portion of the island (fully two thirds of its area) still remains ornithologically unknown.

All the species yet described from Celebes appear to have been obtained from the districts of Macassar and Bonthain in the south, and from the districts of Gorontalo and Minahassa in the north. That part of the island which stretches north from about the fifth parallel S. lat. to the Gulf of Tontoli, and east thence to Limbotto, the lesser of the two eastern limbs of the island, the whole of the south-east limb, and all the central country from which these limbs extend seem to have never been explored by an ornithologist.

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* [Read May 2, 1871.—Ed.]

† Malay Archipelago, vol. i. chap. xviii.

The group of islands of which Peling is the largest, and which are only separated from the Sula Islands by the Greyhound Straits, the Togian or Schildpad Islands in the Gulf of Tomini, the islands of Pagasane and of Bœton, the island of Saleyer, with its train of smaller satellites almost connecting Celebes with Flores, are nearly wholly unknown. The Sanghir Islands in the north, and the Sula Islands to the east, although as yet only partially investigated, have been shown to possess some species identical with those found in Celebes; consequently they have been regarded by recent authors as forming along with Celebes a separate zoological subarea. But I propose in the following list to include only those species of birds which are known to inhabit the island of Celebes itself. A more definite and more accurate idea of the peculiarities of the Celebean ornis will thus be presented, than if genera which occur in the Sula Islands were placed side by side with Celebean genera. If we threw together the ornis of the Sula Islands with that of Celebes, we should find non-Celebean genera (such as *Criniger*, *Ceyx*, *Platycercus*, *Pachycephala*, and *Monarcha*) appearing in the list, and the really anomalous character of the Celebean avifauna actually existing on the main island would thereby be apparently greatly modified.

Tr. Z. S. viii. p. 24.

Mr. Wallace (*op. cit.* i. p. 425) has estimated the number of known Celebean species of birds at one hundred and ninety-one. I have only been able to add two more to that number; yet there are doubtless many more species represented by Celebean examples in the museums of Europe. On the other hand, many species have been described as possessing a Celebean origin which most assuredly do not occur in the island.

To give a clear idea of the geographical relation of the Celebean avifauna I have thrown its one hundred and forty-eight genera into tables, and classed them according to the regions and subregions they may be said to belong to. The geographical character of a genus has been determined according to the area which possesses the preponderating number of species. Thus *Artamus* is classed as an Australian genus, because at least thirteen species of it occur within the Australian region, while one only is peculiar to the Indian; *Arachnothera* as an Indian genus, although one species is found in New Guinea.

By means of these tables it will be seen that thirty-seven Indian genera occur in Celebes; of these, three are peculiarly Indo-Malayan.

Table I.—Showing the Indian genera found in Celebes.—N.B. Those peculiar to the Indo-Malayan subregion are marked with an asterisk.

Poliornis.
Spilornis.
Polioaëtus.
Limnaëtus.
Neopus.
Lophospiza.
Ephialtes.
Loriculus.
Yungipicus.
Mulleripicus.
Phœnicophaës.
*Centrococcyx.
Cranorrhinus.
Lyncornis.
Pelargopsis.
Callialcyon.
Geocichla.
Broderipus.
Trichostoma.
Cyornis.
Myiolestes.
Hypothymis.
Æthopyga.
Nectarophila.
*Anthreptes.
Arachnechthra.
Dicæum.
Arachnothera.
*Prionochilus.
Munia.
*Padda.
Acridotheres.
Sturnia.
Osmotreron.
Gallus.
Erythra.
Rallina.

The next table consists of the twenty-three Australian genera which are also Celebean. Two of these appear to be peculiar to the Australian subregion ‡; of the remainder some are Papuan, and some extend into the Polynesian subregion.

Table II.—Showing the Australian genera found in Celebes.—N.B. Those belonging especially to the Australian subregion are marked with a dagger (†); to the Papuan § with an asterisk (*).

Tr. Z. S. viii. p. 25.

*Teraspiza.
*Erythrospiza.
Cacatua.
*Tanygnathus.
Trichoglossus.
Sauropatis.

Collocalia.
†Scythrops.
*Dicrurus.
Artamus.
Graucalus.
Lalage.

*Chalcostetha.
*Zonœnas.
*Turacœna.
*Calœnas.
Phlogœnas.
*Myristicivora.

*Lamprotreron.
*Iotreron.
*Leucotreron.
Megapodius.
†Hydralector.

Eighteen Celebean genera may be considered common to the Indian and Australian regions, the proportion of species in each region being about equal. Some occur outside the limits.

Table III.—Showing the genera found in Celebes which are also common to the Indian and Australian regions.—N.B. Genera which do not occur in the Polynesian subregion are marked with an asterisk.

*Tachyspiza.
*Haliastur.
*Cuncuma.
*Baza.
*Eudynamis.

Cacomantis.
*Macropteryx.
*Hirundinapus.
*Pitta.
*Volvocivora.

*Calornis.
*Ducula.
*Macropygia.
*Chalcophaps.

*Geopelia.
*Carpophaga.
*Excalfactoria.
*Esacus.

Fifty-eight are genera which are found within the limits of the Indian region and also beyond. Eight of these belong to the Rapaces, six to the Picariæ, two to the Gallinæ, twenty-five to the Grallæ, ten to the Anseres, and only seven to the Passeres. Nine of these fifty-eight genera are unrepresented in the Australian subregion.

Table IV.—Showing the genera represented in Celebes which likewise occur both within and beyond the limits of the Indian region.—N.B. Genera not occurring in the Australian subregion are marked with an asterisk.

Tinnunculus.
*Hypotriorchis.
*Pernis.
Milvus.
Elanus.
Circus.

Athene.
Strix.
Hirundo.
Merops.
*Coracias.
Eurystomus.

*Alcedo.
*Buceros.
Acrocephalus.
Cisticola.
*Budytes.
*Pratincola.

*Monticola.
Zosterops.
Corvus.
*Turtur.
Turnix.
Eudromias.

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‡ *Conf.* Sclater, P.Z.S. 1869, p. 125.

§ The Papuan *Dicruri* are generically separable.

Tr. Z. S. viii. p. 26.

Ægialites.
Charadrius.
Strepsilas.
Himantopus.
Porphyrio.
Hypotænidia.
Rallina.
Gallinula.
Numenius.
Actitis.
Lobipes.
Totanus.
Limosa.
Tringa.
Gallinago.
Melanopelargus.
Falcinellus.
Ardea.
Herodias.
Ardetta.
Demiegretta.
Ardeola.
Nycticorax.
Butorides.
*Querquedula.
Mareca.
Dendrocygna.
Hydrochelidon.
Onychoprion.
Pelecanopus.
Plotus.
Phalacrocorax.
Dysporus.
Podiceps.

The following nine genera are peculiar to the island of Celebes:—*Meropogon*, *Monachalcyon*, *Ceycopsis*, *Artamides*, *Gazzola*, *Streptocitta*, *Enodes*, *Scissirostrum*, *Megacephalon*. One genus is restricted to Celebes and the Sanghir Islands, *Cittura*; one to Celebes and the Philippines, *Prioniturus*; and one to Celebes and Ceram, *Basilornis*.

Of these twelve genera, *Meropogon*, *Streptocitta*, and *Basilornis* belong to the non-Australian families; *Gazzola* to the almost universal Corvinæ; *Monachalcyon*, *Ceycopsis*, and *Cittura* are isolated genera of a family in which the Australian region is pre-eminently rich; *Enodes* and *Scissirostrum* have affinities with genera common to the Indian and Australian regions; *Megacephalon* is strictly Australian. The affinities of *Prioniturus* seem to be with Australian genera.

The total number of Celebean genera also found within the Indian region, but not in the Australian, is forty-eight †.

The total number of Celebean genera also occurring in the Australian region, but not in the Indian, is twenty-three. If we compare these numbers, we find that Celebes contains twenty-five more Indian than Australian genera.

If we make the same comparison by orders, the following results are obtained:—

	Indian region.	Australian region.
Psittaci	1	3
Rapaces	10	2
Picariæ	11	3
Passeres	20	5
Columbæ	2	8
Gallinæ	1	1
Grallæ	2	1
Anseres	1	0
Total	48	23

So, while the Celebean Rapaces and Passeres contain a large majority of Indian genera, in the Psittaci and Columbæ Australian genera preponderate. *Loriculus* is classed as an Indian genus; yet until the zoogeographical positions of the Philippines and of Celebes are determined the zoogeographical characters of *Loriculus* cannot be established. Within the limits of the Philippine and Celebean areas, seven out of the thirteen known species occur. Another, *L. amabilis*, a representative form of the Celebean *L. stigmatus*, occurs in the Sanghir Islands, and is also Papuan, being found at Gilolo and Batchian. The remaining five, one of which (*L. flosculus*) is the Flores representative of the Javan *L. pusillus*, are peculiar to the Indian region. If, then, we cease to regard *Loriculus* as having an Indian origin, all the five genera of Psittaci known in Celebes are either Australian or peculiar. The Columbæ, while imparting a decided, it may even be affirmed an absolute, Australian character to the Celebean avifauna, as clearly indicate a very close Philippine affinity.

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† It is true that *Buceros*, *Alcedo*, *Budytes*, and *Pratincola* occur in some of the Papuan and Moluccan islands; but they cannot be regarded as genera belonging to the Australian region.

Tr. Z. S. viii. p. 27.

Among the Gallinæ, *Gallus* and *Megapodius* are severally representatives of equally important typical families, characterizing one the Indian, the other the Australian region. But Celebes and the Philippines* are the only areas where representatives of the Phasianidæ and Megapodidæ are associated.

Among the Picariæ, the presence of *Scythrops* can hardly be deemed sufficient to balance the two genera of Picidæ, more especially if *Scythrops* be migratory in Celebes, as in Australia. But though three of the genera belonging to the Alcedinidæ are Indian, yet the great richness of the family in Celebes forms an important element in favour of the Australian nature of the Celebean ornis.

But to obtain a still more complete conception of the zoogeographical characters of Celebean ornithology the following tables have been prepared, showing the principal Indian and Australian genera that do not occur in the island.

Notwithstanding the great preponderance of Indian genera, some entire families, and a large number of genera characteristic of, if not altogether peculiar to, the Indian regions are wanting in Celebes. For instance, the following important families are without representation:—Sittidæ, Trogonidæ, Megalæmidæ, Paridæ, Brachypodidæ, Pycnonotidæ, Laniidæ, and Alaudidæ.

And the great families of the Picidæ and Timaliidæ are but poorly indicated—the first by two genera, the last by but a single genus. Among the Grallæ and Anseres, the Otididæ, Cursoriidæ, Glareolidæ and Gruidæ, and the Phœnicopteridæ, all families having representation in the Indian region, appear to be unknown in Celebes. The absence of the Vulturidæ is a feature in common with the whole Indo-Malayan region. The number of Anatidæ and Laridæ recorded from Celebes is so small that it seems probable that members of those families have been overlooked by collectors.

After excluding from the list of genera found in the Indian region all those that do not likewise possess an Indo-Malayan habitat, at least eighty-eight Indian genera are absent from Celebes; of these, twelve are purely Indo-Malayan.

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* It is as yet uncertain whether the Philippine *Gallus* inhabits the same islands as the Philippine *Megapodii*. *Gallus* is only known for certain to occur in Luzon.

Table V.—Showing the principal Indian genera which are wanting in Celebes.
N.B. Purely Indo-Malayan genera are marked with a dagger.

Icrax.
Ketupa.
Bulaca.
Phodilus.
Batrachostomus.
†Eurylaimus.
Psarisomus.
†Corydon.
†Cymbirhynchus. Tr. Z. S. viii. p. 28.
†Calyptomena.
Harpactes.
Ceyx.
Nyctiornis.
Chalcococcyx.
Dendrophila.
Chalcoparia.
Orthotomus.
Prinia.
Enicurus.
Corydalla.
Copsychus.
Cittocincla.
Phyllornis.
Iora.
Hypsipetes.
Ixos.
Brachypodius.
Pycnonotus.
Iole.
Criniger.
Irena.
Analcipus.
Brachypteryx.
Myiophonus.
Mixornis.
Malacopteron.
†Macronus.
Alcippe.
Timalia.
Megalurus.
Garrulax.
Pomatorhinus.
Pteruthius.
Parus.
†Platylophus.
Lanius.
Tephrodornis.
Buchanga.
Dissemurus.
Chaptia.
Bhringa.
Pericrocotus.
Hemipus.
Eumyias.
†Philentoma.
Tchitrea.
Leucocirca.
Cissa.
†Temnurus.
Dendrocitta.
Crypsirhina.
Eulabes.
Ploceus.
Passer.
Mirafra.
Palæornis.
Megalæma.
Xantholæma.
Meiglyptes.
Hemicircus.
Micropternus.
Chrysocolaptes.
Chrysophlegma.
Tiga.
Sasia.
Rhopodytes.
Coccystes.
†Peloperdix.
Arborophila.
Perdicula.
Pavo.
†Argusianus.
Polyplectron.
Euplocamus.
†Rollulus.
Metopidius.
Gallicrex.
Hydrophasianus.

The islands to the eastward of Celebes (the Papuan or Austro-Malayan region of Mr. Wallace) are characterized by a large number of peculiar genera. Of these, at least forty-four are absent from Celebes. Besides the families of the Epimachidæ and the Paradiseidæ, important groups, such as *Podargus*, *Pachycephala*, and *Manucodia*, are all wanting. Nor does a single Papuan Muscicapine form occur in Celebes. Papuan genera belonging to the two great orders Psittaci and Columbæ, orders which are so largely developed in the Australian region, and in no part of that region to a greater extent than in its Papuan subregion, are found in Celebes. This fact is justly regarded as sufficient to stamp the ornis of that island with a Papuan character. Yet among the Psittacidæ such essentially typical Australian genera (also Papuan) as *Lorius* and *Platycercus* do not extend to Celebes. And several peculiar Papuan types are there unknown. The Columbæ of the Papuan subregion are well represented in Celebes; yet, with one exception (*Phlogœnas*), all the Papuan genera of the Gouridæ are missing *.

By the annexed table it will also be seen that several remarkable Papuan forms belonging to another characteristic Papuan family (Alcedinidæ) are not found in Celebes.

* *Calœnas* is a migratory form.

Tr. Z. S. viii. p. 29.

Table VI.—Showing the principal Austro-Malayan or Papuan genera which do not occur in Celebes.

- Henicopernis.
- Podargus.
- Ægotheles.
- Eurystopodus.
- Choucalcyon.
- Mellidora.
- Cyanalcyon.
- Syma.
- Alcyone.
- Myzomela.
- Entomophila.
- Glyciphila.
- Meliphaga.
- Anthochæra.
- Philemon.
- Gerygone.
- Petroica.
- Peltops.
- Machærirhynchus.
- Arses.
- Monarcha.
- Piezorhynchus.
- Microeca.
- Todopsis.
- Mimeta.
- Rectes.
- Cracticus.
- Pachycephala.
- Myiolestes.
- Manucodia.
- Ptilonorhynchus.
- Lycocorax.
- Gymnocorvus.
- Eos.
- Lorius.
- Geoffroyius.
- Charmosyna.
- Platycercus.
- Psittacula (Cyclopsitta).
- Nasiterna.
- Microglossum.
- Dasyptilus.
- Trugon.
- Goura.
- Henicophaps.
- Casuarius.

The zoogeographical relationship of the Philippines and Celebes, as exemplified by their birds, has been adverted to by Mr. Wallace and other writers. Unfortunately the Philippine archipelago, with its twelve hundred islands, has been but imperfectly explored; while the localities of many, if not of all, the known Philippine species are but vaguely ascertained. Luzon, the island whose ornithology has been the most investigated, is the furthest off from Celebes, and has the large island of Mindanao and many of less importance intervening. The resemblance which exists between the Celebean and Philippine avifaunas rests on the occurrence of Papuan genera in Mindanao, and perhaps in South Luzon, which likewise occur in Celebes: *Cacatua*, *Tanygnathus*, *Phlogœnas**, *Hemiphaga*, and *Megapodius* may be cited. Two genera seem to be confined to Celebes and the Philippines—*Prioniturus* and *Pyrrhocentor*; this last is only known from Mindanao. *Megapodius cumingi* (Gould) is stated by Camel (v. Martens, *op. cit.* p. 26) to be found in Mindanao and in Mindoro. The exact habitats of the other genera remain to be determined. The known Philippine genera of the Picariæ and Passeres are nearly all Indo-Malayan; but then they have mostly been as yet only obtained from the neighbourhood of Manilla. They include characteristic Indian genera unknown in Celebes. Such are, besides *Hierax*, *Harpactes*, *Chrysocolaptes*, and several other Picidæ, *Xantholæma*, *Irena*, *Copsychus*, *Cittacincla*, *Tchitrea*, *Ixos*, *Hypsipetes*, *Parus*, and genera such as *Lanius* and *Turdus*,

That Mindanao contains a strong Indian element, however, is shown by the fact that *Xantholæma*, *Irena*, and *Copsychus* have been there obtained; *Irena* also occurs in the island of Panay. Thus enough is known of the Philippine ornis to justify anticipation, when it is worked out, of highly interesting zoogeographical facts, but not sufficient to enable us to determine the degree of relationship between the avifauna of the Philippine and Celebean areas.

Tr. Z. S. viii. p. 30.

The absence of the two genera *Criniger* and *Rhipidura* in Celebes constitutes one of the many peculiarities of its ornis. *Criniger*, represented in the neighbouring Sula Islands by a peculiar species, possesses other representatives in many of the Moluccan islands and throughout the Indo-Malayan subregion.

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* *Phlogœnas luzonica* (Scop.), =*cruenta* (Gm.), is said by Buzeta to occur in the Calamines (*conf.* v. Martens, J. für O. 1866, p. 25).

Rhipidura is still more widely and largely represented in the whole Australian region, and in the Indo-Malayan subregion, having representatives in all the islands of the Malay archipelago, excepting Celebes and the Sula Islands.

Then, again, the presence of the two genera *Coracias* and *Myialestes* is equally remarkable; for they are both unknown in any part of the Indo-Malayan region, and reappear on the mainland of Asia.

After rejecting all those species whose Celebean origin does not rest upon the most undoubted authority, I find that the number of birds inhabiting Celebes amounts to, at least, one hundred and ninety-three. Of this number sixty-five are peculiar to the island. Twenty more are found also in the Sula Islands, or the Sanghir group, making a total of eighty-five species peculiar to Celebes and the two groups just mentioned. Of the remaining one hundred and eight species, fifty-five have Indian affinities (that is, are elsewhere only found in the Indian region as opposed to the Australian), though many extend beyond the limits of the Indian region; fourteen are found in the Australian and not in the Indian region, and twenty-eight are common to both regions; eight more species seem to be confined to the Moluccan islands; and three, not included above, are doubtfully found beyond Celebes; these are *Elanus hypoleucus*, *Ephialtes menadensis*, and the Celebean form of *Iotreron melanocephala*.

PSITTACI.

PLYCTOLOPHIDÆ.

Cacatua, Vieillot.

1. Cacatua sulphurea (Gm.), S. N. ed. xiii. i. p. 330, "Moluccas" (1788), ex Brisson, Orn. iv. p. 206, no. 9; O. Finsch, Papag. i. p. 296.

Cacatua æquatorialis, Temm., Wallace, P. Z. S. 1864, p. 280.

Hab. Tomini (*Forsten*); Flores, Lombock (*Wallace*).

Dr. O. Finsch regards the individuals inhabiting the islands of Flores and Lombock as belonging to this Celebean species. This is also Mr. Wallace's view (*l. c.*). Both authors concur in specifically separating the Timorese bird. On the other hand, Professor Schlegel continues to include the Timorese form (*C. sulphurea*, *apud* Wallace, *l. c.*, =*P. buffoni*, O. Finsch, *op. cit.* p. 300). The eminent Professor also mentions that in the Celebean Cockatoo the iris is red, while in those of Flores, Timor, and Lombock it is of a darker red, often passing into brown (*conf.* Tr. Z. S. viii. p. 31. Nederl. Tijdschr. 1866, p. 319). Dr. O. Finsch (*l. c.* p. 298), on the contrary, says that he has seen undoubted Celebean examples with the iris almost black. Mr. G. R. Gray (Hand-list, no. 8395) enumerates *C. æquatorialis*, Temm., as the title of a second Celebean species of *Cacatua*; Temminck's title was given in fact to *C. sulphurea* (Gm.), and there is no evidence of two species of Cockatoo occurring in Celebes.

PSITTACIDÆ.

TANYGNATHUS, Wagler.

2. TANYGNATHUS MÜLLERI (S. Müller & Schlegel), Verhandl. Land- en Volkenk. p. 108, "Celebes" (1839).

Psittacus sumatranus, Raffles, Trans. Linn. Soc. xiii. p. 281, "Sumatra" (1822).

Tanygnathus albirostris, Wallace, P. Z. S. 1862, p. 336, "Celebes and Sula Islands."

Eclectus müllleri (Temm.), O. Finsch, Papag. p. 357; Schlegel, Nederl. Tijdschr. 1866, p. 185.

Hab. Macassar, Menado, Sula Islands (*Wallace*); Sanghir Islands (*Schlegel*); Sama Island (*Cuming*).

Professor Schlegel and Dr. O. Finsch affirm that the white-billed form (*T. albirostris*) represents only a phase of colouring, and is not a species distinct from the red-billed *T. mülleri*. The evidence which they have produced in support of this view (O. Finsch, Papag. ii. p. 361) is strong; and examples of both forms in my own collection appear to belong to the same species. Mr. Wallace, on the other hand, maintains that the two birds are distinct species, and recently has written to me that "*T. albirostris* is certainly distinct." While Dr. O. Finsch (*l. c.*) states that he has seen living examples in the Amsterdam Zoological Gardens with the white bill passing into the red bill of *T. mülleri*, Mr. Wallace informs us (*l. c.*) that the cry of *T. albirostris* is different from that of *T. mülleri*, and that the white-billed form "is universally recognized by the natives of Celebes as another bird." Between the highest authority on the *Psittaci* and the greatest field-naturalist of the day it is difficult to decide; and we must leave the question open for further investigation.

If the white-billed species prove distinct, it will have in strictness to take the title of *sumatranus* of Raffles. And if both forms prove to be the same species, the title of *mülleri* will have to fall. In his remarks on Raffles's title, Dr. O. Finsch (*l. c.*) has somewhat misunderstood Sir Stamford's words. That author distinctly left it to be understood that his *P. sumatranus* was an indigenous Sumatran species. That it is not an inhabitant of Sumatra seems to be quite established.

PRIONITURUS, Wagler.

Tr. Z. S. viii. p. 32.

3. PRIONITURUS PLATURUS (Kuhl), Consp. p. 43, "Nova Caledonia" (1820).

Psittacus setarius, Temm. Pl. Col. 15, "Timor," *errore* (October 7, 1820).

Prioniturus wallacei, Gould, Birds of Asia, pt. 14, "Celebes" (1862).

Hab. Menado, Macassar (*Wallace*).

Dr. O. Finsch in his great work (Papageien, ii. p. 395) has thoroughly disentangled the synonymy of this species, the true *habitat* of which Mr. Wallace was the first to discover. The existence of any species of the genus, much less of this one, in the island of Timor is quite unauthenticated; nor has this bird been found in New Caledonia.

4. **Prioniturus flavicans**, Cassin, Proc. Ac. Nat. Sc. Phil. vi. p. 73 (1853); Gould, Birds of Asia, pt. 14.

Hab. Tondano (*Forsten*).

Loriculus, Blyth.

5. **Loriculus stigmatus** (Müller & Schlegel), Verhandl. Land- en Volkenk. p. 182, "Celebes" (1841); Schlegel, Dierentuin, p. 70, woodcut.

Hab. Gorontalo, Tondano (*Forsten*); Macassar (*Wallace*).

6. **Loriculus sclateri**, Wallace, P. Z. S. 1862, p. 336, pl. 38, "Sula Islands."

Hab. Sula Islands (*Wallace*); Celebes (*Von Rosenberg*, fide *Schlegel*, Nerderl. Tijdschr. 1866, p. 186).

7. **Loriculus exilis**, Schlegel, Nederl. Tijdschr. p. 185 (1865); O. Finsch, Papag. ii. p. 729, pl. 5.

Hab. North Celebes (*Schlegel*, fide *O. Finsch*); Menado (*Meyer*).

In the original description the origin of this species was omitted by Professor Schlegel.

TRICHOGLOSSIDÆ.

Trichoglossus, Vigors & Horsfield.

8. **Trichoglossus ornatus** (Linn.), Syst. Nat. ed. 12, i. p. 143. no. 19, "Asia" (1766), ex Edwards, pl. 174.

Hab. Macassar (*Wallace*); Minahassa (*Von Rosenberg*); Menado (*mus. nostr.*).

This species is also stated by S. Müller and Von Rosenberg to inhabit the island of Buton—an assertion on which Dr. O. Finsch (Papag. ii. p. 844) places little reliance.

9. **Trichoglossus meyeri** (Pl. IV. *in orig.*), Walden, Ann. N. H. series 4, vol. viii. p. 281, "Menado" (1871).

Hab. Menado (*Meyer*).

Tr. Z. S. viii. p. 33.

RAPACES.

FALCONIDÆ.

Falconinæ.

Hypotriorchis, Boie.

10. **Hypotriorchis severus** (Horsf.), Trans. Linn. Soc. xiii. p. 135, "Java" (1822); Wallace, Ibis, 1868, p. 5.

Falco aldrovandi, Reinw., Temm. Pl. Col. 128, "Java" (August 2, 1823).

Hab. Macassar, Salwatty; most probably occurs in every island of the archipelago (*Wallace*); Java (*Schlegel*); Nepal (*Hodgson*); Himalayas (*Jerdon*); Ceylon (*Holdsworth*).

TINNUNCULUS, Vieillot*.

11. TINNUNCULUS MOLUCCENSIS, Jacquin. & Pucheran, Voy. Pôle Sud, Zool. iii. p. 47, "Amboyna" (1853).

Cresserelle des Moluques, Hombr. & Jacquin. *op. cit.* Atlas, pl. 1. fig. 2 (July 1843); Schlegel, Faun. Jap. *Aves*, p. 3 (1842).

Hab. Celebes, all the Moluccas, Flores, Timor, and Goram (*Wallace*); Borneo (*Schlegel*); Java (*Bocarmé*); Menado (*mus. nostr.*).

The Javan *habitat* of this Kestrel seems to rest solely on the authority of the Vicomte de Bocarmé, as quoted by Professor Schlegel (Mus. Pays-Bas, *Falcones*, p. 28).

ACCIPITRINÆ.

LOPHOSPIZA, Kaup.

12. LOPHOSPIZA GRISEICEPS (Schlegel), Mus. Pays-Bas, *Astures*, p. 23 (1862), "Celebes;" Wallace, Ibis, 1864, p. 184, pl. 5.

Hab. Macassar, Menado (*Wallace*); Menado (*mus. nostr.*); Gorontalo (*Forsten*).

TERASPIZA, Kaup.

13. TERASPIZA RHODOGASTRA (Schlegel), Valkv. Nederl. Ind. pp. 21 & 60, pl. 12. figs. 5 & 6.

Nisus virgatus rhodogaster, Schlegel, Mus. Pays-Bas, *Astures*, p. 32.

Hab. Celebes (*Wallace*); Menado (*mus. nostr.*); Gounong-Pello, district of Gorontalo (*Forsten*).

ERYTHROSPIZA, Kaup.

14. ERYTHROSPIZA TRINOTATA (Bp.), Consp. Av. i. p. 33, "Celebes" (1850).

Nisus trinotatus, Schl. Mus. Pays-Bas, *Astures*, p. 45; Valkv. Nederl. Ind. pp. 27 & 65, pl. 19. figs. 1, 2, 3.

Hab. Macassar, Menado (*Wallace*); Menado (*mus. nostr.*); Gorontalo (*Forsten*).

ERYTHROSPIZA IOGASTRA (S. Müller), Verhandel. Land- en Volkenk. p. 110, "Amboyna" (1839?). Tr. Z. S. viii. p. 34.

Accipiter hyogaster, S. Müller, Jacquin. & Pucheran, Voy. Pôle Sud, iii. p. 48, "Macassar,"
Epervier océanien, Hombron & Jacquin. *op. cit.* Atlas, pl. 2. fig. 1.

Jacquinot is our only authority for the occurrence of this species, as identified by Pucheran, in Celebes; but as his notes relating to localities are not always trustworthy, and as *A. iogaster* is not given from Celebes by either S. Müller, Professor Schlegel, or Mr. Wallace, I shall not include it in this list. In this instance Jacquinot's authority is doubly untrustworthy; for he identified *A. rufitorques*, Peale, with *A. iogaster*, and noted the two examples, which he figured (*l. c.*) as having been obtained in the Viti Islands and at Macassar. It is quite possible that *A. iogaster* does occur in Celebes; and it is difficult to determine the *A. cruentus*, Gould, *ap.* Schlegel, M. P.-Bas, *Astures*, p. 42, mâle adulte, Célèbes, Voy. de Reinwardt, "gorge d'un roussâtre uniforme," unless we refer it to *A. iogaster*. And yet, under *Nisus cruentus* (Valkv. Nederl. Ind. p. 61), Professor Schlegel does not allude to this specimen, nor does he give Celebes as a locality for *N. cruentus*.

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* It is a debatable question whether the generic title *Cerchneïs*, Boie (1826), the type of which is *F. rupicolus*, Daud., should not be employed rather than that of *Tinnunculus*, Vieillot (1807), the type of which is *F. columbarius*, Linn.

Tachyspiza, Kaup.

15. Tachyspiza soloënsis (Horsf.), Trans. Linn. Soc. xiii. p. 137, "Java" (1822); Mus. Pays-Bas, *Astures*, p. 44.

Falco cuculoides, Temm. Pl. Col. livr. xxii. pls. 110, 129, "Java" (August 2, 1823).

Hab. New Guinea, Batchian, Sumatra, Malacca (*Wallace*); Java, Philippines (*Schlegel*); Menado (*mus. nostr.*); North Celebes (*Forsten*).

Aquilinæ.

Neopus, Hodgson.

16. Neopus malayensis (Reinw.), Pl. Col. 117 (26th June, 1824), "Java, Sumatra."

Hab. Java, Sumatra (*Temminck*); most of the hilly and jungly districts of India (*Jerdon*); Simla (*mus. nostr.*); Nepal (*Hodgs.*); Malacca (*mus. nostr.*); Celebes (*Bernstein*); Ceylon (*Layard*).

Limnaëtus, Vigors.

17. Limnaëtus lanceolatus, Bp. Consp. Av. i. p. 29, "Celebes" (1850).

Spizaëtus cirratus, Schlegel, Mus. Pays-Bas, *Astures*, p. 9, ex Celebes.

Hab. Celebes (*Wall.*); Menado (*mus. nostr.*); Tondano (*Forsten*); Sula Islands (*Wallace*).

Tr. Z. S. viii. p. 35.

The example in my collection has been identified by Mr. J. H. Gurney as a young individual of the above species. Underneath pure white; thigh-coverts faintly fringed with pale fulvous; entire head and nape pale fulvous-white; remaining upper plumage hair-brown, darkest in shade at the end of each feather, unexposed portion of each feather being pure white; minor and major under wing-coverts pure white, a few possessing a terminal light-brown spot or drop; axillaries immaculate white; major wing-coverts brown on outer, white, barred with brown, on the inner web; no trace of an occipital crest; bill exceedingly powerful, height from festoon to culmen being full five eighths of an inch. This bird closely resembles a Cingalese example of a young *S. cirrhatus*, Gm. (=*S. cristatellus*, Temm.), in my collection—the only points of difference in the Cingalese individual being, besides its smaller dimensions, a black occipital crest three inches and a half long, the major wing-coverts being mostly white, and the axillaries and thigh-coverts being white, largely dashed, freckled, and barred with a clear tint of pale rufous. In the Celebean bird the tarsal feathers incline to cover the insertion of the toes. Dimensions:—wing 16 inches, tail 11$\frac{6}{8}$, tarsus 3$\frac{1}{2}$, mid toe with claw 2$\frac{1}{2}$, bill from gape 2.

POLIOAËTUS, Kaup.

18. POLIOAËTUS HUMILIS (Müll. et Schlegel), Verh. Ned. overz. Bez. *Aves*, p. 47, pl. 6, "Sumatra;" Wallace, Ibis, 1868, p. 14; Schlegel, Mus. Pays-Bas, *Aquilæ*, p. 18.

Hab. Celebes (*Wallace*); Sumatra (*Müller*); Malay peninsula (*Blyth*); Bengal (*Schlegel*).

CUNCUMA, Hodgson.

19. CUNCUMA LEUCOGASTER (Gm.), Syst. Nat. i. p. 257 (1788); Valkv. Nederl. Ind. pl. 4. figs. 1, 2; Wall. Ibis, 1868, p. 15; Mus. Pays-Bas, *Aquilæ*, p. 14.

Hab. Malacca, Celebes, Gilolo, Batchian, Morty, Aru Islands (*Wallace*); Macassar (*mus. nostr.*); all over India, chiefly on the coast (*Jerdon*); Australia, Tasmania (*Gould*); Timor, Sumatra, Java, Ternate (*Schlegel*); Ceylon (*Layard*).

SPILORNIS, G. R. Gray.

20. SPILORNIS RUFIPECTUS, Gould, P. Z. S. 1857, p. 222, "Macassar;" Schlegel, Valkv. Nederl. Ind. p. 72, pl. 23; Mus. Pays-Bas, *Buteones*, p. 27.

Hab. Menado (*mus. nostr.*); Celebes (*Wallace*); Tondano, Gorontalo (*Forsten*).

MILVINÆ.

HALIASTUR, Selby.

21. HALIASTUR LEUCOSTERNUS, Gould, P. Z. S. 1837, p. 138, "Australia;" Birds of Austr. i. pl. 4; Valkv. Nederl. Ind. pl. 4. fig. 3.

Hab. Celebes, all the Moluccas, New Guinea (*Wallace*); northern and eastern shores of Australia (*Gould*); Macassar (*S. Müller*); Goenong-Tello, district of Gorontalo, Tondano (*Forsten*).

MILVUS, Cuvier.

Tr. Z. S. viii. p. 36.

22. MILVUS AFFINIS, Gould, P. Z. S. 1837, p. 140; Birds of Austr. i. pl. 21; Wallace, Ibis, 1868, p. 16; Valkv. Nederl. Ind. pl. 20. fig. 1.

Hab. Macassar, Timor (*Wallace*); Australia (*Gould*).

I hesitate to include Sumatra within the range of this form, as that *habitat* rests only on the correct identification of a skeleton in the Leyden Museum.

ELANUS, Savigny.

23. ELANUS HYPOLEUCUS, Gould, P. Z. S. 1859, p. 127, "Macassar;" Wallace, Ibis, 1868, p. 17.

? *Elanus intermedius*, Schlegel, Mus. Pays-Bas. *Milvi*, p. 7 (1862).

Hab. Macassar (*Wallace*); and if the same as *E. intermedius*, Schlegel, North Celebes, Borneo, Java (*Schlegel*).

PERNIS, Cuvier.

24. PERNIS PTILORHYNCHA (Temm.), Pl. Col. livr. viii. pl. 44, "Java et Sumatra" (26th July, 1823); Verh. Ned. overz. Bezitt. *Aves*, p. 49, pl. 7, "Sumatra."

Pernis cristata, Cuv.[†] R. Anim. ed. 2, i. p. 335, "Java" (1829).

Var. *celebensis*, Schlegel, Valkv. Nederl. Ind. pl. 26. f. 4; Wall. Ibis, 1868, p. 17.

Hab. Celebes only, if distinct from Indian and Malayan species (*conf. Wallace, l. c.*).

In Mr. J. H. Gurney's opinion the Celebean *Pernis* should receive a distinct specific title; and Mr. Wallace writes that it is distinct. I have been unable to examine any examples.

BAZA, Hodgson.

25. BAZA MAGNIROSTRIS, G. R. Gray, List Birds Brit. Mus. 1844, p. 19, "Philippine Islands;" Kaup, Isis, 1847, p. 343; Schlegel, Nederl. Tijdschr. Dierk. 1866, p. 328; Schlegel, Vog. Nederl. Ind. Valkv. pp. 40, 75, pl. 28. f. 4, 5.

Pernis crassirostris, Kaup, Contrib. Orn. 1850, p. 77.

Hab. Philippines (*type*); Celebes, Sulu Islands (*Wallace*); Borneo (*Schlegel*).

Professor Schlegel (Valkv. p. 77) states that the types of *Lophotes reinwardtii*, Schlegel & Müller (Verh. Ned. overz. Bezitt. *Aves*, p. 37, pl. 5. figs. 1, 2, "Celebes"), were not obtained by Reinwardt in Celebes, and that the Dutch travellers have never obtained it in that island. The Professor, while identifying the Celebean *Baza* with the Philippine species, points out differences which may eventually prove sufficient to justify the Celebean bird being specifically separated from the Philippine.

Tr. Z. S. viii. p. 37. In the 'Hand-list' Mr. Gray has introduced *B. reinwardtii* as a second Celebean species. No authentic account of its occurrence in Celebes has as yet been published, while Professor Schlegel and Mr. Wallace restrict its range to Bourou, Ceram, and Amboyna.

BUTEONINÆ.

POLIORNIS, Kaup.

26. POLIORNIS LIVENTER (Temm.), Pl. Col. livr. lxxiv. pl. 438, "Java" (September 22, 1837); Schlegel, Mus. Pays-Bas, *Buteones*, p. 21.

Hab. Celebes (*Wallace*); Java, Timor (*Mus. Lugd.*); Macassar (*S. Müller*); Tonghoo, Burma (*mus. nostr.*); Siam (*Gurney*).

27. POLIORNIS INDICUS (Gm.), Syst. Nat. ed. 13, i. p. 264. no. 68 (1789), ex Latham.

Javan Hawk, Lath. Gen. Syn. i. p. 34*. no. 8, 7*d*, "Java."

Falco javanicus, Lath. Gen. Hist. i. p. 163. no. 87, ex Lath. (1821).

Falco poliogenys (Temm.), Pl. Col. livr. lv. pl. 325, "Ile de Luçon" (February 28, 1825).

Buteo pyrrhogenys, Schlegel (*lapsu calami*), Faun. Jap. *Aves*, p. 21, pl. 7 B, "Japan."

[†] It seems to have been overlooked that, although Cuvier discriminated this species in 1817, he only conferred a Latin title on it in 1829.

Astur barbatus, Eyton, Ann. Nat. Hist. xvi. p. 227, "Malacca" (1845).

Buteo pygmæus, Blyth, J. A. S. B. 1845, p. 177, "Tenasserim provinces," *op. cit.* 1850, p. 339.

Hab. Menado (*mus. nostr.*); Gilolo (*mus. nostr.*); Luçon (*Dussumier*); Japan (*Schlegel*); Morty Isl., Sanghir Isl. (*Mus. Lugd.*); Java (*Latham*); Malacca (*Eyton*); Tenasserim Prov. (*Blyth*).

The designation *F. indicus*, Gm., is rejected by Professor Schlegel (Mus. Pays-Bas, *Buteones*), on the ground of its being undeterminable. Gmelin gave that title to the *Javan Hawk*, described by Latham from an individual which flew on board a vessel off the coast of Java. Mr. J. H. Gurney informs me (*in epist.*) that, having compared Latham's description with the three Asiatic species of *Poliornis*, he agrees with the late Mr. Strickland (and consequently with Mr. G. R. Gray, List B. Mus. p. 68, 1848) in identifying it with *F. poliogenys*, Temm. "Latham's description agrees in all respects," continues Mr. Gurney, "except that he speaks of five transverse bars on the tail, and I have not seen more than four, and in one specimen only three." My Celebean and Gilolo examples only possess three bars. But in the 'Fauna Japonica' Professor Schlegel states that this species has four or *five* caudal bands.

Mr. Blyth tells me that he considers his *B. pygmæus* to be the same as *F. poliogenys*, Temm., and that Mr. Eyton's description of *Astur barbatus* sufficiently applies to *B. pygmæus*.

Circus, Lacépède.

28. Circus assimilis, Jardine & Selby, Illustr. Ornith. ii. pl. 51, *juv.*, "New Holland" (1826); Schlegel, Mus. Pays-Bas, *Circi*, p. 9; Valkv. Nederl. Ind. pl. 20. figs. 2, 3.

Circus jardinii, Gould, P. Z. S. 1837, p. 141, "New South Wales;" Wallace, Ibis, 1868, p. 19, *adult.*

Hab. Celebes (*Wallace*); Menado (*mus. nostr.*); Gorontalo (*Forsten*); Macassar (*S. Müller*); New South Wales (*Gould*); Central Polynesia, if identical with *C. approximans* (*Peale*); Viti Islands (*Finsch and Hartlaub*).

Tr. Z. S. viii. p. 38.

Professor Schlegel (*l. c.*) mentions that the Macassar example in the Leyden Museum, a female in first plumage, obtained by S. Müller, perfectly agrees with the figures of *C. assimilis* as given by both Jardine and Selby and by Mr. Gould. But *C. assimilis*, J. & S., and *C. assimilis*, J. & S. *apud* Gould (B. Austr. pl. 26), are two distinct species, both inhabiting Australia, but with different ranges, *C. assimilis*, J. & S., being the young bird of *C. jardinii*, Gould, pl. 27, and *C. assimilis*, J. & S. *apud* Gould, pl. 26, being a distinct species ranging into New Zealand, but not occurring in South Australia, and named *C. gouldi*, Bp. Consp. p. 34, ex Austr., and Rev. de Zool. 1850, p. 491, "de la Nouvelle Hollande." *C. gouldi*, Bp., was described by its author (*fide* Schlegel, *l. c.*) from specimens in the Leyden Museum, "acquis comme provenant de la Patagonie;" and Professor Schlegel identifies them with *C. macropterus*, Vieill. Mr. J. H. Gurney is of opinion that they are not *C. macropterus*, that the types came from Australia, as twice over stated by Prince Bonaparte, and not from South America, and that they are identical with *C. assimilis*, J. & S. *apud* Gould, *nec* J. & S. *C. assimilis*, J. & S., =*C. jardinii*, Gould, Mr. Gurney informs me, has alone been obtained in Celebes. *C. wolfi*, Gurney, P. Z. S. 1865, p. 823, pl. 44, ex New Caledonia, and which Messrs. Finsch and Hartlaub (Centr. Polyn. p. 7) identify with one of the two Australian Harriers (for they confound the two), Mr. Gurney assures me is a perfectly distinct species.

STRIGIDÆ.

ATHENE, Boie.

29. ATHENE PUNCTULATA (Quoy et Gaim.), Voy. Astrolabe, Zool. i. p. 165, pl. i. f. 1, "Celebes" (1830); Mus. Pays-Bas, *Striges*, p. 29.

Hab. Macassar (*Wallace*); Menado (*Schlegel*).

30. ATHENE OCHRACEA (Schlegel), Nederl. Tijdschr. Dierk. 1866, p. 183, "Negrilamá, Celebes" (1866).

Hab. Celebes (*Rosenberg*).

I refer this species to *Athene* with some doubt, never having seen an example. The description reads like that of a *Ninox*. One specimen only, and that of a female, seems to be known. Professor Schlegel (*l. c.*) remarks that it resembles generally his *Noctua philippensis**, but that it has a longer tail, and that the style of colouring differs.

Tr. Z. S. viii. p. 39.

EPHIALTES, Keyserling & Blasius.

31. EPHIALTES MAGICUS (Schlegel), Faun. Jap. *Aves*, p. 25, "Amboyna, Celebes" (1842); Bp. Consp. p. 46; Schlegel, Mus. Pays-Bas, *Oti*, p. 22.

Ephialtes leucospila, G. R. Gray *apud* Wall. Ibis, 1868, p. 25.

Hab. Amboyna (*S. Müller*); Gorontalo (*Forsten*).

The range of the Celebean species referred to the above title has not as yet been ascertained; and its right to that title even has yet to be proved. *Otus magicus* is the MS. title given by S. Müller to a Scops Owl inhabiting Amboyna. Professor Schlegel (Faun. Jap.) seems to have identified the Celebean bird with that of Amboyna; for there is no note in the Mus. Pays-Bas of Celebean examples obtained by S. Müller. Unfortunately, as Müller never published a description, his title cannot be fixed on the Amboyna bird. If Professor Schlegel is right in considering the Amboyna and Celebean species identical, there can be no question that the title must stand *E. magicus*. But this view is not adopted by Mr. Wallace, who identifies (*l. c.*) the Celebean species with the Papuan *E. leucospila*, G. R. Gray, and leaves *E. magicus* as the title of the Amboyna and Ceram forms. Mr. J. H. Gurney is doubtful whether *E. leucospila* can be separated from *E. magicus*, but has had no Amboyna examples for comparison. He has kindly sent me the following note on the subject:—"The Norwich Museum has ten specimens of *Ephialtes leucospila*, but only one of *E. magicus as limited by Mr. Wallace*. This specimen does not differ from some of those of *E. leucospila* more than they do amongst themselves; and I am therefore disposed to agree with Professor Schlegel in thinking that the two are not really separable, unless it be right to separate the different phases of *E. leucospila*, which appear to vary somewhat in measurement, and also a good deal in the relative darkness of their markings. In the following list of the Norwich specimens I begin with the darkest and finish with the lightest, and I also give the length of the tarsus and of the wing from the carpal joint to the tip:—

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* Nederl. Tijdschr. Dierk. 1866, p. 183,=*Ninox philippensis*, Bp. Compt. Rend. xli. p. 655 (1855)?

	Wing.	Tarsus.	
E. LEUCOSPILA.			
No. 1. East Gilolo*	7″ 6‴	1″ 3‴	Very dark. Mr. Gray's type specimen.
2. Morty Island	7 0	1 2	Dark and rufous.
3. Morty Island	6 6	1 2	Intermediate in colour between the darkest and lightest extremes, and all nearly alike.
4. Morty Island, ♀	7 0	1 2	
5. Gilolo	6 9	1 2	
6. Ternate, ♂	7 0	1 2	
7. Batchian, ♀	7 0	1 2	
8. Celebes, ♀	7 6	1 3	
9. Bouru, ♂	7 5	1 3	Much paler, and nearly alike.
10. Bouru, ♀	7 5	1 3	
E. MAGICUS.			
1. Ceram	7 2	1 3	Rather more mottled on the back than the specimen of *E. leucospila*, but comes very near to no. 8.

"If the races are separable, I should think that probably the birds from Ceram, and Amboyna also (according to Wallace), and perhaps those from Celebes, should stand as *E. magicus*, and those from Morty, Gilolo, Ternate, and Batchian as *E. leucospila*, from which the pale-coloured birds from Bouru *may* be also separable. But the differences are too slender to form a basis for specific distinction, and very probably are not constant." Tr. Z. S. viii. p. 40.

Mr. G. R. Gray (Hand-list, i. p. 46) treats these forms as distinct species, but makes them both to be inhabitants of Celebes.

32. EPHIALTES MENADENSIS (Quoy et Gaimard), Voy. Astrolabe, Zool. i. p. 170, pl. 2. fig. 2, "Menado" (1830); Schlegel, Mus. Pays-Bas, *Oti*, p. 20; Wallace, Ibis, 1868, p. 25.

Hab. Gorontalo (*Forsten*); Macassar, Menado, Island of Flores (*Wallace*).

Dr. Hartlaub (Faun. Madagasc.) identified the Madagascar brown form, *Scops madagascariensis*, Grandid., with the Celebean *E. menadensis*, but retained *S. rutilus*, Pucher. (Archives du Mus. iv. pl. 22), as a distinct species. Professor Schlegel (Rech. s. l. Faun. Mad.) concurs with Dr. Hartlaub, but besides points out that *S. rutilus* is nothing but the rufous phase. Mr. J. H. Gurney (Ibis, 1869, p. 452) admits the identity of the two Madagascar forms, but considers the Madagascar to be a larger local race of the Celebean *E. menadensis*, and (*in epist.*) "would be disposed to rank it as one for which a specific name is convenient." One of Forsten's Celebean examples (Mus. Pays-Bas, *l. c.*), "teintes tirant fortement au roux," leads us to expect that *E. menadensis* will yet be found in Celebes exhibiting the rufous livery of *S. rutilus*, Pucher. The Flores habitat rests solely on the authority of Mr. Wallace. Celebean examples only are contained in the Leyden Museum.

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* Erroneously given in P. Z. S. 1860, p. 345, as 6″ 6‴.

Ninox, Hodgson.

33. Ninox japonicus (Bp.), Consp. i. p. 41 (1850), ex Schlegel, Faun. Jap. pl. 9.

Noctua hirsuta japonica, Schlegel, Nederl. Tijdschr. 1866, p. 182.

Hab. Celebes (*Von Rosenberg*); Japan, China (*Schlegel*).

The occurrence of a species of *Ninox* in Celebes was first made known by Professor Schlegel (*l. c.*). One example, collected by Von Rosenberg, is stated by the Professor to be absolutely identical with Japanese and Chinese individuals. A second Celebean example, obtained by the same collector, Professor Schlegel considers to be more nearly related to the *Ninox* of continental India. A third example, sent from the island of Sanghir, the same author regards as most nearly resembling the Bornean form *Athene borneensis*, Bp., but with larger dimensions. The range of the subgenus *Ninox* is extensive. Its members are found in Ceylon, which furnished the type of *Strix hirsuta*, Temm.; in Southern and Central India, *S. lugubris*, Tickell; in the Himalayas, *N. nipalensis*, Hodgs., whence they extend eastward and north-Tr. Z. S. viii. p. 41. eastward to Japan, where they become *A. japonica*, Bp. To the southward they are found in Bengal, Burma, and Cochin China. In the Malaccan peninsula they bear the title of *A. malaccensis*, Eyton, in the Andamans, *N. affinis*, Tytler; while of the Indo-Malayan Islands, Sumatra contains the type of *S. scutulata*, Raffles; Borneo, *A. borneensis*, Bp.; and the Philippines, *N. philippensis*, Bp. (Compt. Rend. xli. p. 655, 1855). A skeleton in the Leyden Museum is our only evidence of Java possessing a species of this group, to which *A. florensis*, Wallace, ex Flores, appears also to belong. The Madagascar *N. madagascariensis*, Bp., so closely resembles the Indian *Ninox*, that Dr. Hartlaub (Faun. Madagasc.) considers that it can hardly be separated as even a local race (*conf.* J. H. Gurney, Ibis, 1869. p. 453). Enough has been said to show that all the local varieties have yet to be rigidly compared with one another before the exact title of the Celebean *Ninox* can be absolutely determined.

Strix, Linnæus.

34. Strix rosenbergi, Schlegel, Nederl. Tijdschr. iii. p. 181, "Celebes" (1866); Wallace, Ibis, 1868, p. 26.

Hab. Molido, Boni, Gorontalo (*Rosenberg*); Menado (*mus. nostr.*); Macassar (*Wallace*).

A very distinct and fine species.

PICARIÆ.

PICIDÆ.

Mulleripicus, Bonaparte.

35. Mulleripicus fulvus (Quoy et Gaimard), Voy. Astrol. i. p. 228, pl. 17. f. 2, ♂, "Celebes" (1830); Malh. Monogr. i. p. 53, pl. 14. f. 1, ♂, f. 2, ♀.

Hab. Macassar, Menado (*mus. nostr.*).

The affinities of this interesting species are nearer to *M. pulverulentus* (Temm.) than to the group of large black-and-white species represented by *P. javensis*. Malherbe (*l. c.*) erroneously referred *P. fulvigaster*, Drap. (Dict. Sc. Nat. viii. p. 621, ex Java), to this species, instead of to *P. javensis*, ♂, Horsf. (1822), = *P. horsfieldii*, ♂, Wagler (1827), = *P. leucogaster*, Reinw. (1830).

Yungipicus, Bonaparte.

36 Yungipicus temminckii (Malherbe), Rev. Mag. Zool. 1849, p. 529, "Celebes;" Malh. Monogr. i. p. 155, pl. 36. f. 3, ♀.

Hab. Celebes (*Mus. Lugd.*); Macassar (*Wallace*).

Founded on a single example of a female in the Leyden Museum. Allied to *Y. kisuki*, but considered a good species by Temminck and Bonaparte. Tr. Z. S. viii. p. 42.

Prince Bonaparte (Consp. i. p. 129) described a specimen of a Woodpecker, *Picus sanguineus*, Lichtenst. (Cat. Hamb. p. 17), which was wrongly labelled in the Leyden Museum as coming from Celebes, under the title of *Venilia albertuli*.

MEROPIDÆ.

Merops, Linnæus.

37. Merops philippinus, Linn. Syst. Nat. ed. 13[*] (Vindob.), i. p. 183. no. 5 (1767), ex Brisson.

Apiaster philippensis major, Brisson, Orn. iv. p. 560, "Philippine Islands."

Hab. Menado (*mus. nostr.*); Indian region.

Examples of the Bee-eater, usually referred to Brisson's Philippine species, from North-east India, Candeish, Malabar, Coorg, Ceylon, Sumatra, and Java, are undistinguishable; and my Celebean specimens do not appear to differ.

In the Hand-list, no. 1208, Mr. G. R. Gray keeps the species which inhabits India, Ceylon, Java, Flores, Lombock, and Timor separate from the Philippine bird, and refers it to *Merops daudini*, Cuvier. Cuvier bestowed this title (Règne Anim. i. p. 442) on Levaillant's *Guêpier daudin* (pl. 14). Levaillant distinctly states that he described his species from examples brought from the Philippines by Sonnerat and Poivre. The title of *Merops daudini* therefore applies to a Philippine species, and cannot be used for the Indian species even if the Indian bird really does differ.

38. Merops ornatus, Latham, Ind. Orn. Suppl. p. xxxv, "New Holland" (1801); Wallace, Ibis, 1860, p. 147; P. Z. S. 1862, p. 338.

Hab. Celebes (*Wallace*); Java (*mus. nostr.*); Flores, Lombock, Timor, Sula Islands, Sumbawa, Ternate, Mysol, New Guinea (*Wallace*); Gilolo (*Bernstein*); New South Wales, South Australia (*Gould*); Clarence River, Port Albany (*mus. nostr.*).

Sula-Island examples perfectly agree with Australian. The Philippine Bee-eater referred to this species by Von Martens (J. für Orn. 1866, p. 17) seems to belong to another species allied to *M. viridis*, Linn.

[*] In the twelfth edition ("Holmiæ") the title of this species was omitted by the printer's mistake.

Meropogon, Bonaparte.

39. Meropogon forsteni (Temm.), Bp. Consp. i. p. 164, "Celebes" (1850); Schlegel, Mus. Pays-Bas, *Merops*, p. 8; Meyer, J. für O. 1871, p. 231.

Hab. Tondano (*Forsten*); Rurukan (*Meyer*).

Mr. Wallace failed in obtaining this species (Ibis, 1860, p. 142).

Tr. Z. S. viii. p. 43.

CORACIIDÆ.

Coracias, Linnæus.

40. Coracias temminckii (Vieillot), N. Dict. Sc. Nat. xxix. p. 435, "l'Inde" (1819), ex Levaillant, Hist. Nat. Promér. et Guêp. iii. Suppl. p. 46, pl. G; Schlegel, Mus. Pays-Bas, *Coraces*, p. 138; Wallace, Malay Archipel. i. p. 337.

Coracias papuensis, Quoy et Gaimard, Voy. de l'Astrol. Zool. p. 220, pl. 16, "Dorey," *errore* (1830).

Hab. Kema (*Forsten*); Gorontalo, Modelido (*Von Rosenberg*); Menado (*mus. nostr.*); Macassar (*Wallace*).

In the 'Hand-list,' no. 899, Mr. G. R. Gray extends the range of this species to the Sula Islands. Mr. Wallace is unable to confirm this statement, but writes to me that it is probable. I have failed in finding any confirmation among the Dutch writers.

Eurystomus, Vieillot.

41. Eurystomus orientalis (Linn.), S. N. ed. 12, i. p. 159, ex Briss.; Schlegel, Mus. Pays-Bas, *Coraces*, p. 139.

Eurystomus pacificus (Lath.), ap. Wallace, P. Z. S. 1862, p. 339.

Hab. Limbotto, Gorontalo, Bongka, Ayer-pannas, Boné (*Von Rosenberg*); Menado (*mus. nostr.*); Indian region.

The *Eurystomus* of Celebes belongs to the Asiatic and not to the Australian type, *E. pacificus* (Lath.). It is not to be distinguished from Ceylon and Indian examples.

ALCEDINIDÆ.

Daceloninæ.

Monachalcyon, Reichenbach.

42. Monachalcyon princeps (Forsten), Mus. Lugd.; Bp. Consp. i. p. 154, "Celebes," adult; Schlegel, Vog. Ned. Ind. *Ijsvogels*, pl. 7. f. 1, 2, 3.

Dacelo cyanocephalus, Forsten, Mus. Lugd.

—— *monachus*, Temm. Mus. Lugd.

Monachalcyon monachus, Sharpe, Mon. Alcedinidæ, pt. xi. no. 87.

Hab. Kema, Menado (*Forsten*).

Mr. Sharpe, in his excellent Monograph, has adopted the specific title of *monachus*, given by Temminck to the very young bird. I have preferred, in the absence of any recognized rule in such a case, to use the title bestowed by Forsten on the fully adult bird.

Ceram and Ternate are cited by Mr. G. R. Gray (Hand-list, no. 1068) as additional *habitats* of this remarkable species; it appears, however, to be a purely Celebean bird.

SAUROPATIS, Cabanis.

Tr. Z. S. viii. p. 44.

43. SAUROPATIS CHLORIS (Bodd.), Tabl. Pl. Enl. p. 49 (1783), ex Buff.; Sharpe, Monogr. pt. xii. no. 102.

Alcedo collaris, Scopoli, Fl. Faun. Insub. ii. p. 90 (1786), ex Sonn.

Hab. Macassar (*Wallace*).

The geographical distribution of this species will be found fully given by Mr. Sharpe (*l. c.*).

44. SAUROPATIS SANCTA (Vig. & Horsf.), Trans. Linn. Soc. xv. p. 206, "New Holland" (1825); Sharpe, Monogr. pt. xii. no. 104.

Mr. Sharpe (*l. c.*) has not included Celebes within the range of this species; but Mr. Wallace has informed me that he obtained it, as well as *S. chloris*, at Macassar.

45. SAUROPATIS FORSTENI, Temm. Bp. Consp. i. p. 157, "Celebes" (1850); Schlegel, Mus. Pays-Bas, *Alcedines*, p. 37; Schlegel, Vog. Ned. Ind. *Ijsvogels*, p. 29, pl. 11. f. 1; Sharpe Monogr. pt. xii. no. 103.

Hab. Gorontalo (*Forsten*).

The type specimen, an adult female, preserved at Leyden, is the only individual known. In Prince Bonaparte's diagnosis Professor Schlegel (*l. c.*) substitutes the words "*subtus nigrescens*" for "*subtus alba*." Mr. Sharpe informs me that "it is close to *H. chloris*, of which perhaps it is only an accidental variety."

Todiramphus funebris (Forsten), Bp. (*l. c.*), is from Gilolo, and not from Celebes, nor has *Alcedo diops*, Temm., been found there since Temminck described the species.

CALLIALCYON, Bonaparte.

46. CALLIALCYON RUFA (Wallace), P. Z. S. 1862, p. 338, "Sula Islands and Celebes."

Halcyon coromanda (Lath., pt.), Sharpe, Monogr. pt. ix. no. 69.

Hab. Celebes, Sula Islands (*Wallace*); Macassar (*Wallace*).

The Celebean *Callialcyon* is the largest and most brilliantly coloured of the group. In both these respects it differs; and I therefore do not hesitate to retain Mr. Wallace's title.

CITTURA, Reichenbach.

47. CITTURA CYANOTIS (Temm.), Nouv. Rec. livr. xliv. pl. 262, "Sumatra" (!), *errore* (March 27, 1824); Sharpe, Monogr. pt. ii. no. 10, "Celebes;" Wallace, Ibis, 1860, p. 142.

Hab. Kema (*Forsten*); Celebes (*Wallace*); Menado (*mus. nostr.*).

The true *habitat* of this species was made known by Professor Schlegel some seven years ago (Mus. Pays-Bas); and to Mr. Wallace we owe not only a confirmation of the fact, but interesting notes on the habits of the bird. It is not improbable that the differences whereon Mr. Sharpe founded his *C. sanghirensis* will prove to be common to the Celebean bird in certain phases of plumage.

Tr. Z. S. viii. p. 45.

Ceycopsis, Salvadori.

48. Ceycopsis fallax (Schlegel), Nederl. Tijdschr. Dierk. 1866, p. 187, "Celebes;" Sharpe, Monogr. pt. v. no. 37.

Hab. Edges of creeks in the mountainous parts of Celebes (*Schlegel*); Menado (*mus. nostr.*).

Tanysiptera riedelii, J. Verreaux, N. Arch. du Mus. ii. Bulletin, p. 23, pl. 3. f. 1 (1866), is not a Celebean bird. See P. Z. S. 1872, p. 1.

Alcedininæ.

Pelargopsis, Gloger.

49. Pelargopsis melanorhyncha (Temm.), Pl. Col. 391, "Celebes" (10th June, 1826); Sharpe, Monogr. pt. ix. no. 66.

Hab. Celebes (*Reinwardt*); Menado (*mus. nostr.*); Sula Islands (*Wallace*).

Alcedo, Linnæus.

50. Alcedo moluccensis, Blyth, J. A. S. B. xv. p. 11, "Moluccas" (1846); Cat. Calc. Mus. no. 215, p. 49, "Celebes, Moluccas;" Sharpe, Monogr. pt. x. no. 74.

Alcedo minor moluccensis, Schlegel, Mus. Pays-Bas, *Alcedines*, p. 8; Schlegel, Vog. Ned. Ind. *Ijsvogels*, p. 5, pl. 1. f. 4, 5.

Hab. Gorontalo (*Forsten*); Celebes, Bouru, Gilolo, Flores (*Wallace*); Salawati, Ceram, Batchian, Mysol, Amboyna (*Von Rosenberg*).

It was probably Celebean examples of this species which Temminck mistook for the common European Kingfisher (Pl. Col. 272, note).

51. Alcedo asiatica, Swainson, Zool. Illustr. 1st ser. i. pl. 50, "some part of India" (1820–21); Sharpe, Monogr. pt. x. no. 75.

Alcedo meninting, Horsf. Trans. Linn. Soc. xiii. p. 172, "Java" (1822); Temm. Nouv. Rec. pl. 239. f. 2, "Java and Sumatra;" Schlegel, Vog. Ned. Ind. *Ijsvogels*, p. 6, pl. 3. f. 2, 3.

Hab. Indo-Malayan region, Macassar (*Wallace*); Gorontalo (*Von Rosenberg*); Lombock (*Wallace*).

CYPSELIDÆ.

Macropteryx, Swainson.

52. Macropteryx wallacii (Gould), P. Z. S. 1859, p. 100, "Macassar."

Hab. Celebes, Sula Islands (*Wallace*); Macassar, Menado (*mus. nostr.*).

This species is closely allied to *M. klecho*, but differs in being considerably larger and in having the crown of the head, the shoulder-coverts, the edgings of the quills, and the upper surface of the rectrices of a deeper shade of blue-green. Dimensions of wing in *M. wallacii*, seven inches and a quarter; in *M. klecho*, six inches and a quarter.

COLLOCALIA, G. R. Gray.

Tr. Z. S. viii. p. 46.

53. COLLOCALIA ESCULENTA (Linn.), Syst. Nat. ed. 12, i. p. 343. no. 2 (1766), ex Rumph. Herb. Amb.; Wallace, P. Z. S. 1863, p. 384.

Collocalia hypoleuca, G. R. Gray, P. Z. S. 1858, p. 170, "Aru Islands;" Hand-list, no. 749; Ann. Nat. Hist. ser. 3, vol. xvii. p. 120.

Hab. Celebes, Timor, Moluccas, Aru Islands (*Wallace*).

Notwithstanding the reasons advanced by Mr. G. R. Gray (*l. c.*), Mr. Wallace's arguments in favour of this species being the true *Hirundo esculenta*, Linn., appear to me to be decisive. Rumphius does not speak of "the concealed white spots on the tail-feathers as if there were one on each" (Gray, *op. cit.* p. 126). On the contrary, by the expression "only when the feathers are separated the white spots become visible," Rumphius leaves it to be inferred that all the white spots are concealed, and therefore that the middle pair of tail-feathers are immaculate. The statement of Linnæus that "*all* the tail-feathers are spotted with white," is an inaccurate rendering of the description given by Rumphius.

54. COLLOCALIA FUCIPHAGA (Thunberg), Act. Holm. xxxiii. p. 151, pl. 4, "Java" (1772); Wallace, P. Z. S. 1863, p. 384.

Collocalia nidifica, var., G. R. Gray, Ann. Nat. Hist. ser. 3, vol. xvii. p. 119; F. Moore, Cat. Mus. E. Ind. Co. i. p. 98.

Hab. Macassar (*Wallace*); Java (*H. esculenta*, ap. Horsf.); Sumatra (*H. esculenta*, ap. Raffles); Bourbon, Mauritius (var. *francica*, Gm.); Neilgherries (*H. unicolor*, Jerdon, =*C. concolor*, Blyth); Malabar coast and Western Ghauts (*Jerdon*); Ceylon (*Layard*); Darjeeling (*Tickell*); Assam (*H. brevirostris*, McClelland); Bootan (*Pemberton*); Sikim (*Blyth*); the whole of the Malay islands (*Wallace*).

The further limits of this species depend on the true value of *H. vanicorensis*, Quoy & Gaim., =*M. leucophæa*, Peale.

HIRUNDINAPUS, Hodgson.

55. HIRUNDINAPUS GIGANTEUS (V. Hasselt): Pl. Col. livr. xli. pl. 364, "Java" (27th August, 1825).

Chætura gigantea, var. *celebensis*, Sclater, P. Z. S. 1865, p. 609, "Menado."

Hab. Java (*type*), Sumatra, Celebes (*Mus. Lugd.*); India (*Jerdon*); Ceylon (*Layard*).

Dr. Sclater (*l. c.*) points out differences which distinguish the Celebean *Hirundinapus* from typical Javan and Sumatran examples. As one of these distinctions he mentions "a well-marked narrow white patch on the front on each side of the nostrils." Dr. Sclater also alludes to the Celebean bird as "a very distinct form." The white frontal marks are also found in the Indian bird, while in a Penang specimen, along with other slight differential characters, Dr. Jerdon

(B. of Ind. i. p. 173) found the white frontal patches wanting. This Penang individual thus agreed with the type as described by Temminck. But it seems possible that the absence and presence of the white frontal spots only denote phases of plumage. If not, the Indian bird will belong to a different species, while the Celebean may be either the same as the Indian (in itself highly improbable), or represent a third form. Tr. Z. S. viii. p. 47.

CAPRIMULGIDÆ.

LYNCORNIS, Gould.

56. LYNCORNIS MACROPTERUS, Bp. Consp. i. p. 62, "Celebes" (1850); Wallace, Ibis, 1860, p. 141.

Hab. Menado (*Wallace*).

BUCEROTIDÆ.

BUCEROS, Linnæus.

57. BUCEROS EXARATUS, "Reinw.," Temm. Nouv. Recueil, livr. xxxvi. pl. 211, ♀, "Celebes" (2nd August, 1823); Schlegel, Mus. Pays-Bas, *Buceros*, p. 10. (Pl. V. fig. 1, ♂; fig. 2, ♀, *in orig.*)

Hab. Tondano (*Forsten*); Menado (*mus. nostr.*); appears to be restricted to the north-eastern parts of Celebes.

The male is distinguished from the female by having the throat, cheeks, ear-coverts, sides of neck, and superciliary stripes springing from base of mandible white. In my examples the white supercilium has light ferruginous-brown feathers intermixed. In dimensions the female appears to be somewhat smaller. The example I note from is marked by the collector "female," while the entirely black individuals are marked "males." According to Professor Schlegel (*l. c.*) the subject of Temminck's plate was a female; and, together with Salomon Müller, he describes the male as having the throat and sides of the head white.

As this curious form does not belong to any of the established subdivisions of the family, I leave it for the present in the old Linnæan genus. It is certainly not a *Hydrocissa*, as classed by Prince Bonaparte. It belongs to the group of Hornbills in which the casque and the true maxilla are completely blended together, the prolongation of the casque forming, in old birds, the apex of the maxilla.

CRANORRHINUS, Cabanis.

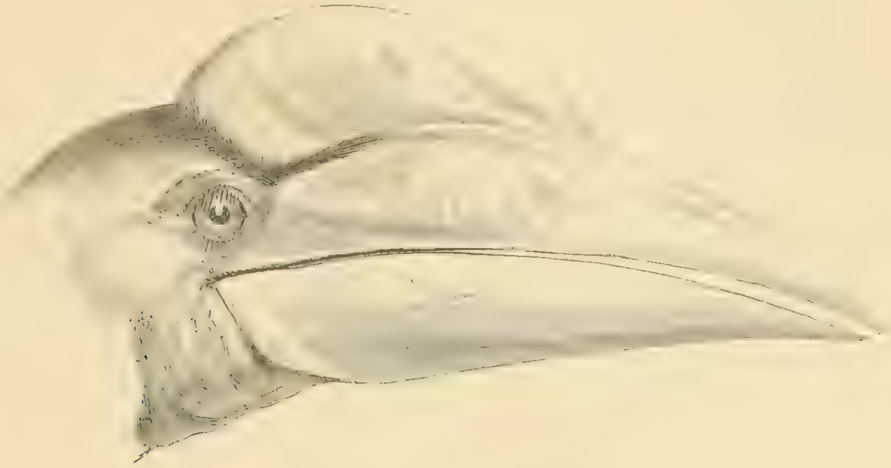
58. CRANORRHINUS CASSIDIX (Temm.), Pl. Col. 210, ♂, "Celebes" (2nd August, 1823).

Buceros cassidix, Temm.; Schlegel & Müller, Verhandel. Zool. *Aves*, p. 24, pl. 4 bis, ♀; Schlegel, Mus. Pays-Bas, *Buceros*, p. 9; Wallace, Malay Archip. i. p. 364.

Tr. Z. S. viii. p. 48. *Hab.* Tondano (*Reinwardt*); Menado (*mus. nostr.*); district of Maros, Macassar (*Wallace*).

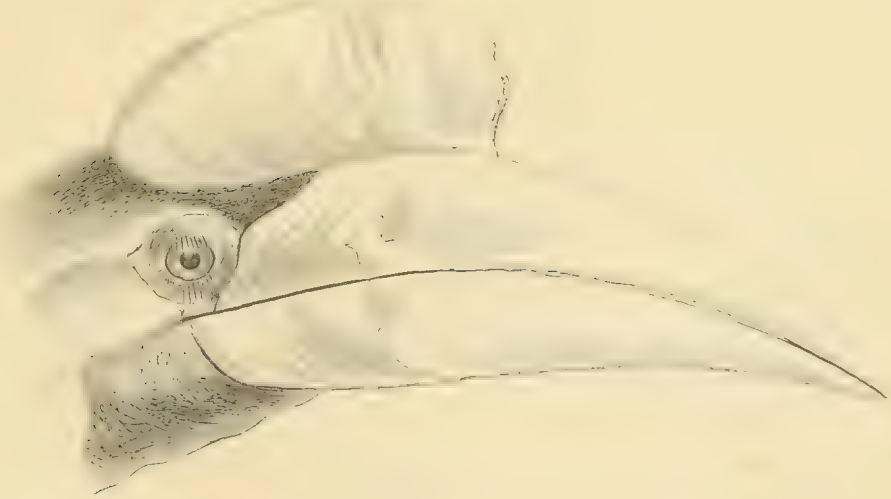
The types of the two plates above cited came from Tondano. In the old males the colouring of the neck is pale tawny, with scarcely any of the bright ferruginous tint exhibited by the younger birds. Thus the dark chestnut-brown feathers on the crown, occiput, and nape appear more isolated, the much paler hue of the neck-plumage forming a greater contrast. In other respects there are no characters whereby the younger may be distinguished from the older birds, save the somewhat smaller general dimensions, and the form, proportion, and adjuncts of the bill. After the full plumage has been acquired, the bill still passes through three very distinct stages of structure. In the younger (fig. 1) the casque looks more like an inflation of the culmen than a separate part of the maxilla, so little is it detached. It is swollen posteriorly, and already reaches to above the eye. Anteriorly it falls rapidly towards the culmen without exhibiting an erect edge. The cutting-edges of the mandibles are not broken or serrated. In the mature bird the bill measures two inches more than in the younger; yet in the younger bird the mandibles are as high, or are higher, throughout their length than in the fully adult; or, in other words, in the

Fig. 1.



Cranorrhinus cassidix, ♂ juv.

Fig. 2.

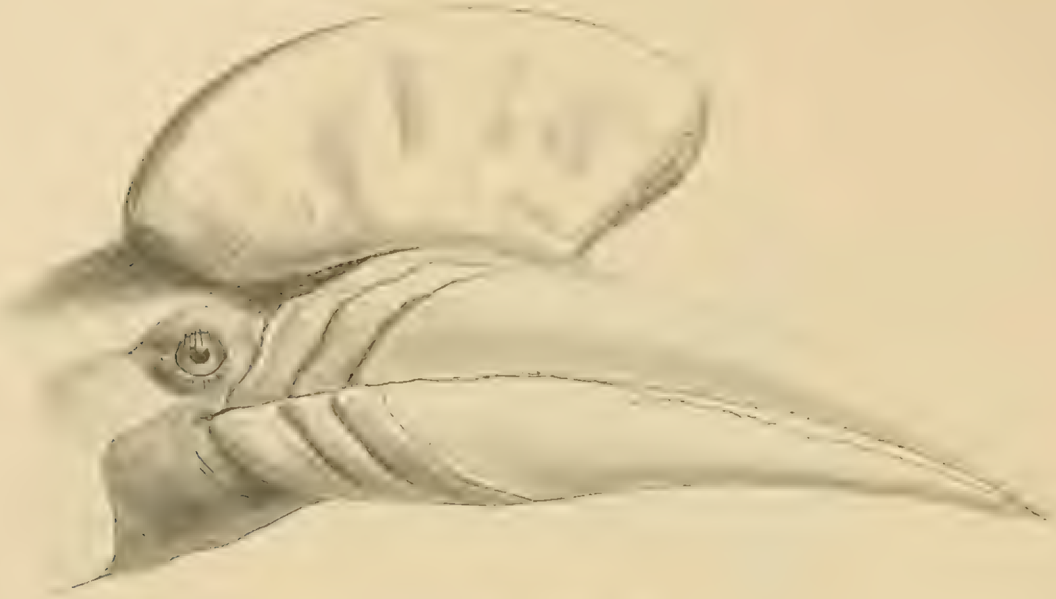


Cranorrhinus cassidix, ♂ juv.

Tr. Z. S. viii. p. 49.

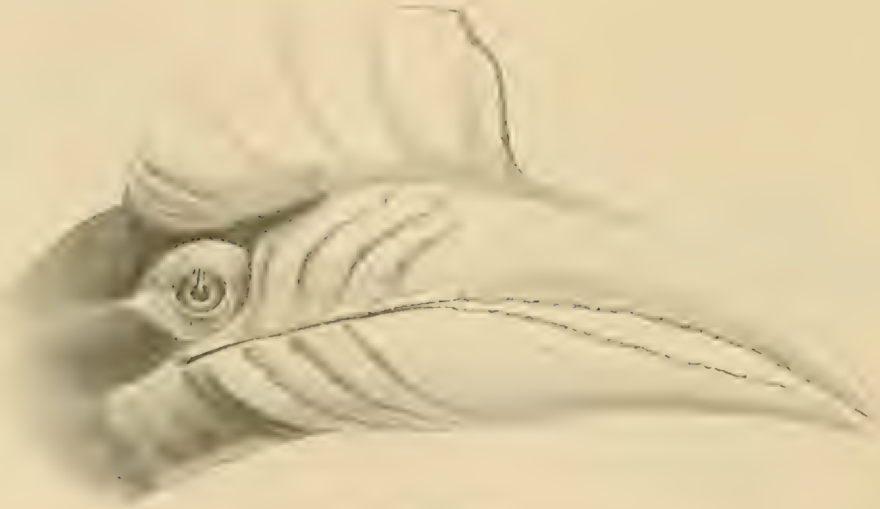
latter the bill is prolonged at the expense of its height. In this stage there are no traces of the basal lateral plates. The walls of the mandibles are quite smooth, without any indications of lateral folds. But the position which is occupied by the lateral plates in older individuals is indicated by a dingy reddish-brown colour.

Fig. 3.



Cranorrhinus cassidix, ♂ ad.

Fig. 4.



Cranorrhinus cassidix, ♀.

Tr. Z. S. viii. p. 50.

In the next stage (fig. 2, p. 151) the bill measures about one inch longer, and has acquired the form which exists in the old bird; but the cutting-edges are unbroken. The casque is more inflated, appears more detached from the culmen, and reaches further back on the crown of the head. In front it stands up at a right angle to the culmen, and is much compressed. A thin, smooth plate has grown on the basal half of the two mandibles; but there are no traces of folds or grooves. The substance of these plates seems to be secreted from the walls of the mandibles.

In the fully adult bird (fig. 3) the commissure is serrated, notched, and broken. The casque extends back past the line of the eye. Anteriorly it is less compressed than in the previous stages, although not so much swollen as the posterior portion. The anterior edge stands at an acute angle to the culmen. The casque displays five distinct folds, or rather undulations. At the base of the mandibles the lateral plates are much thickened. On each side of the maxilla they are divided by a single, deep, diagonal groove into two equally broad flat folds. On the sides of the mandible there are two grooves thus forming three similar folds.

In the adult female (fig. 4) the commissures are much broken and serrated. The casque is smaller, the anterior edge rising at a right angle to the culmen. It is also divided into five almost equal undulations or folds. The basal plates are divided both on the mandibula and maxilla into three broad flat bands. In a second example of a female (*mus. nostr.*) a third band has been partially arrested in its development, the groove being partly obliterated. While the female has certainly three flat bands at the base of both the mandibles, it will be interesting to know whether the male has never more than two at the base of the maxilla. In Temminck's plate (*l. c.*) the male is figured with only two; while in that given by Schlegel and S. Müller (*l. c.*) the female is figured with three both above and below. The following dimensions are taken from Menado examples in my collection. The bill is measured in a straight line from the gape to the apex.

Dimensions.

	Wing.	Tail.	Bill.	Circumferance of casque.		Casque.
	inches.	inches.	inches.	Outer. inches.	Inner. inches.	Height. inches.
Male, young	$16\frac{1}{2}$	$11\frac{1}{4}$	$6\frac{3}{4}$	$5\frac{1}{2}$	4	$1\frac{1}{2}$
Male, intermediate	$17\frac{1}{4}$	14	$7\frac{3}{4}$	$5\frac{1}{4}$	$3\frac{1}{4}$	$2\frac{1}{4}$
Male, adult	$17\frac{1}{4}$	14	$8\frac{3}{4}$	$7\frac{1}{2}$	$3\frac{1}{4}$	$3\frac{3}{4}$
Female, adult	15	12	$7\frac{1}{4}$	5	$3\frac{1}{4}$	2

It will be seen that the bill increases in length after the wings and tail have reached their maximum. The inner circumference of the casque is greater in the youngest than in the adult. The anterior part of the casque, at its union with the culmen, appears to become absorbed, and to retreat as the bird increases in age; or, as the anterior edge becomes more and more perpendicular to the culmen, it perhaps wears off, or is broken off. This can be traced in one example—the indent or hollow from which the fore part of the casque sprung, and in which it was attached to the culmen, a groove shaped like a V, three quarters of an inch long, not being filled up.

Tr. Z. S. viii. p. 51.

Buceros sulcatus, Temm., from the Philippines, and *B. corrugatus*, Temm., from Borneo, belong to the same genus.

CUCULIDÆ.

SCYTHROPINÆ.

SCYTHROPS, Latham.

59. SCYTHROPS NOVÆ-HOLLANDIÆ, Lath. Ind. Orn. i. p. 141, "Nova Hollandia" (1790); Schlegel, Mus. Pays-Bas, *Cuculi*, p. 36; Temm. Pl. Col. 290.

Cuculus præsagus, Reinw. MS., ex Celebes.

Hab. Menado, Macassar (*mus. nostr.*); Kema (*Forsten*); Ceram, north coast (*Mus. Lugd.*); Ceram, south coast, adult males, April (*Hoedt*); Obi-major, adult male, 29th of June, Batchian, adult male and female, end of June, a male, 8th of September (*Bernstein*); Flores (*Wallace*); New South Wales, between October and January (*Gould*); Cape York (*mus. nostr.*).

Two individuals from the vicinity of Menado are, in their colouring and markings, almost identical with an example from Cape York. The dimensions of the wing and tail also agree. But the bill of the Menado male, measured from the nostril, is full two inches and three quarters in length, and that of the female two and five eighths, whereas that of the Cape-York bird is only two inches and a quarter. In form the bill of the Celebean bird differs from that of the Cape-York example. In the latter the culmen is rounded, smooth, and broad, and there is only one lateral channel or groove present. This starts from above the nostril, and runs in a line more or less parallel with the culmen. In the Menado male the culmen, on leaving the forehead, forms a distinct narrow ridge; on each side of it is a depression or shallow valley, formed and bounded by a second ridge, below which again is the channel observable in the Cape-York bird. In the bill of the Menado female the culmen is sharper and still more clearly defined; and the lateral channels, while being deeper, are prolonged nearly to the apex of the maxilla*. The type of structure is essentially that of the bill in some species of the Bucerotidæ.

We know nothing of this form out of Australia. In that country it is migratory. Its geographical distribution in the archipelago, as at present known, is anomalous; for it occurs in Flores, and is not recorded from Lombock or Timor. It has been found in Batchian, but not in Gilolo; in Ceram, but not in Bourou.

Tr. Z. S. viii. p. 52.

PHŒNICOPHAINÆ.

PHŒNICOPHAËS, Vieillot.

60. PHŒNICOPHAËS CALORHYNCHUS (Temm.), Nouv. Rec. livr. lix. pl. 349, "Celebes" (25th of June, 1825); Wallace, Malay Archip. ii. p. 340.

Le Malcoha à bec peint, Less. Complém. de Buffon, ii. p. 618, pl. —. fig. 1.

Hab. Gorontalo (*Forsten*); Menado, Macassar (*mus. nostr.*).

MM. Verreaux proposed (Rev. et Mag. Zool. 1855, p. 356) to restrict Vieillot's generic title *Phœnicophaës* to a small group consisting of this species, of *P. curvirostris*, Shaw, *P. erythrognathus*, Temm., and a fourth species *P. æneicaudus*, Verr., not since obtained. And they suggested a new generic title, *Alectorops*, for the reception of *Cuculus pyrrhocephalus*, Forster. But as Forster's Ceylon Malkoha is the type of *Phœnicophaës*, this arrangement cannot be recognized.

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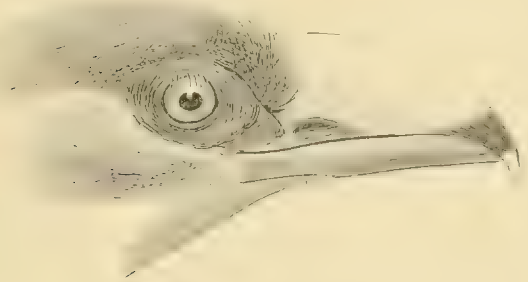
* A Macassar example, since obtained, presents a similar structure.

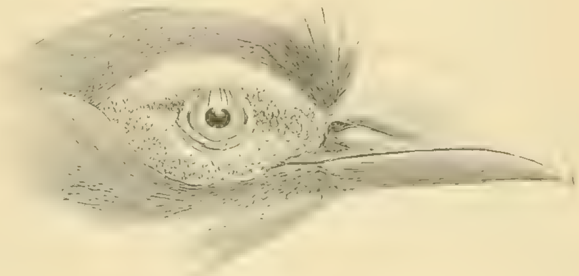
Dr. Cabanis (Mus. Hein. iv. p. 85), concurring in the propriety of separating the Ceylon species from the others, retained it, Vieillot's type species, in *Phœnicophaës*, and proposed *Rhamphococcyx* for the small Indo-Malayan group. The grounds for this separation are the great extent of naked space surrounding the eye, the abnormal colouring of the plumage, the form of the bill, and the position and shape of the nostrils in *P. pyrrhocephalus*. The naked space is certainly more extended than in *P. curvirostris* or *P. erythrognathus*; but then *P. calorhynchus* has the ophthalmic region almost entirely clothed. The colouring of the plumage differs principally in that white replaces the rufous of *P. curvirostris* and *P. erythrognathus*, thus evincing an affinity to *Rhopodytes*, Cab. (*Zanclostomus* of Indian authors, but not of Swainson). The tail is tipped with white instead of rufous; but the upper plumage in all three is green. In *P. calorhynchus* green is entirely absent, and the tail is uniform in colour. In colouring *P. calorhynchus* is as much an isolated species as *P. pyrrhocephalus*. The form of the bill in all four species is very similar; but the position and shape of the nostrils is different in each of the four. The nostril of *P. pyrrhocephalus* (fig. 8) is placed in a narrow, depressed, lengthened, oval slit, which runs almost parallel with the commissure, yet slightly descending. Its situation is almost on the edge of the commissure, and at an unusual distance from the base of the

Fig. 5.



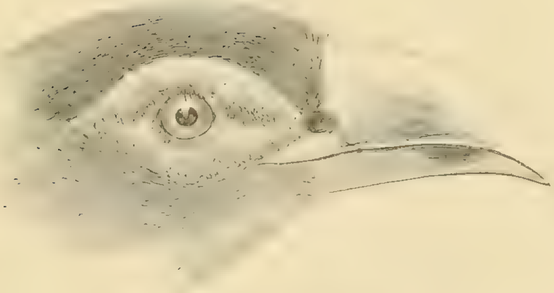
Phœnicophaës calorhynchus.

Fig. 6.



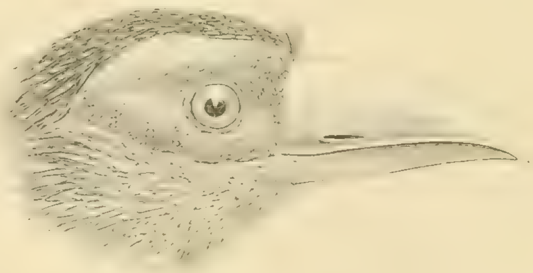
Phœnicophaës curvirostris.

Fig. 7.



Phœnicophaës erythrognathus.

Fig. 8.



Phœnicophaës pyrrhocephalus.

maxilla. In *P. curvirostris* (Shaw) (fig. 6) the nostrils are set at the commencement of a deep narrow groove or channel. In *P. erythrognathus*, Bp.* (fig. 7), the nostril is a simple round hole. The nostril of *P. calorhynchus* (fig. 5) is an elongated slit, like that of *P. pyrrhocephalus*, but running quite parallel with the commissure, and not so near its edge; nor is it as advanced from the base of the maxilla. The position and shape of the nostrils in these four species is so peculiar and distinctive, that the species could be determined from a fragment of the maxilla alone. The striking difference in the shape of the nasal opening of the Javan *P. curvirostris* Tr. Z. S. viii. p. 53. and Sumatran, Moluccan, and Bornean *P. erythrognathus* (forms which are otherwise difficult to recognize as distinct species) is very remarkable. The four species form a natural group which cannot be consistently subdivided, unless *P. calorhynchus* be also made the type of a separate genus. Within the limits of *Phœnicophaës* I am also inclined to include *Melias diardi*, Less., and also *Cuculus sumatranus*, Raffles.

Cuculinæ.

Eudynamis, Vigors & Horsfield.

61. Eudynamis melanorhyncha, S. Müller, Verhandel. p. 176; Schlegel, Mus. Pays-Bas, *Cuculi*, p. 20; Walden, Ibis, 1869, p. 344.

Hab. Kema, Tondano, Gorontalo (*Forsten*); Menado (*mus. nostr.*).

Cacomantis, S. Müller.

62. Cacomantis lanceolatus, S. Müller, Verhandel. p. 178.

Hab. Macassar (*Wallace, mus. nostr.*); Java (type).

The synonymy of the species usually comprised in *Cacomantis*, S. Müller, is still so entangled, that a few general remarks on the Plaintive Cuckoos of the Indian and Australian regions are necessary to enable us to establish the identity of the Celebean member of the genus.

Tr. Z. S. viii. p. 54. In India there are two species: 1, *C. passerinus* (Vahl), without any rufous in the adult plumage; 2, *C. tenuirostris* (Gray, apud Jerdon), with a rufous belly. Both pass through an hepatic phase. *C. passerinus* (Vahl) chiefly inhabits western and south-western India and Ceylon; *C. tenuirostris*, Gray, ap. Jerdon, frequents Bengal and the countries to the eastward, including Burma. In Bengal the two species are said to meet and interbreed. *C. passerinus* (Vahl) has no representative; but *C. tenuirostris*, Gray, ap. Jerdon, is represented in the Malay peninsula by *C. threnodes*, Cab.; in Borneo by *C. borneensis*, Bp.; in the Philippines by *C. merulinus* (Scopoli) *verus*; and in Java by *Cuculus flavus*, Gm., apud Horsf., S. Müller, &c., =*Cacomantis merulinus*, Scop., ap. Cab., and *Polyphasia merulina*, Scop., ap. Horsf. & Moore. The Javan bird, in the hepatic stage, is probably the *C. lanceolatus*, S. Müller. When fully adult it has the head, nape, throat, and breast pale ashy; the remaining lower parts fulvous, more or less inclining to rufous; the caudal bands are white; and the quills unicolorous. In the young and in the transition stage these bands, which are broad, equidistant, and unbroken, are rufous, and the quills are either all or partly rufous-banded. This description will apply more or less to all the races above alluded to.

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* Consp. i. p. 98.

C. sepulchralis, S. Müller, is the title of a third very distinct species, which inhabits Java. When adult it may be at once recognized from *C. merulinus* of Java by its longer bill, and from all the races of that species by its much longer wings and tail, by the chin, cheeks, and ear-coverts *only* being pale ashy, the head dark grey, the upper surface bronze-green, and by the whole under surface, the chin excepted, being ruddy fulvous. The white markings on the rectrices are fewer, smaller, and chiefly consist of triangular edge-spots, and not of bands running right through. In transition plumage this is in all probability the *C. pyrogaster*, Drapiez. *C. sepulchralis*, S. Müller, belongs to the group which includes *C. flabelliformis*, Lath., *C. dumetorum*, Gould, and *C. insperatus*, Gould, from Australia, also several races of small Cuckoos of the Austro-Malayan archipelago, as *C. assimilis*, G. R. Gray, Aru Islands, *C. infaustus*, Cabanis, Mysol, and some undetermined species in Goram, Batchian, Morty, and Salawati, likewise *C. simus*, Peale, Feejee Islands, *C. castaneiventris*, Gould, Cape York, and *C. bronzinus*, G. R. Gray, in New Caledonia. No member of this group has been identified as inhabiting Continental Asia; yet the Bengal specimen, stated by Dr. Jerdon (B. of Ind. i. p. 335) to have the rufous extending to the chin, may belong to it.

A fourth group of Plaintive Cuckoos is represented by *C. tymbonomus*, S. Müller, from Timor; to it belongs the *C. pallidus* (Lath.) of Australia, and an undetermined species from Waigiou. In *C. tymbonomus* the upper surface is pale olive-brown, inclining to ashy on the head and rump; the under surface is paler and more cinereous; under tail-coverts tawny, or pallid rufous; middle pair of rectrices immaculate, but broadly tipped with brown; the remainder tipped with white, and partially toothed on the inner webs with white. This species and its allies also pass through a rufous phase.

Tr. Z. S. viii. p. 55.

C. sonnerati, Lath., founded on Sonnerat's *Petit coucou des Indes* (Voy. Indes, ii. p. 211), from its being more or less rufous at all ages, and a small species, has been often confounded with either one or other of the foregoing. Its Javan representative, but slightly differing, is the *C. pravatus*, Horsf.,=*C. fasciolatus*, S. Müller,=*C. rufovittatus*, Drapiez. The group is also represented in Sumatra, Malacca, Borneo, and Ceylon. This form, raised to generic rank by Dr. Cabanis (*Penthoceryx*), has the bill long, broad at the base, and uncompressed throughout its entire length, the maxilla overlapping the mandibula. In old birds the rufous and dark brown bands of the upper plumage are washed with bronze-green. From the chin to the under tail-coverts each feather is white, traversed by usually three narrow, dusky, irregular lines; the white interspaces being three or four times as broad as the dusky lines. A uniform transverse striated appearance is thus imparted to the under plumage, never found in any other group of the small Asiatic Cuckoos. The middle pair of rectrices are, according to age, either almost entirely dark brown with a bronzy gloss, or else have both sides of the shaft dark brown, indented with bright rufous. The lateral rectrices are never evenly barred through, are always bright rufous with dark cross marks, have a white or else a pale fulvous terminal spot and a penultimate broad dark brown band. Many of the frontal plumes are white at their base and in the centre—a character alone sufficient to distinguish this group from any of the Plaintive Cuckoos in hepatic plumage.

C. infuscatus, Hartl., is either another type of the Plaintive Cuckoos, or else it belongs to the same subsection of *C. passerinus*; or it may prove to be only a phase of *C. simus*.

A Macassar specimen, collected by Mr. Wallace, appears to belong to the group of which *C. merulinus* is typical. It has six of the secondary quills with rufous bars, part of the unmoulted hepatic dress; otherwise it is undistinguishable from Javan examples of *C. lanceolatus*. The lateral rectrices are, as in that species, broadly barred with pure white. It is, however, a larger bird, with wings and tail somewhat longer. Wing 4$\frac{1}{8}$, tail 4$\frac{6}{8}$.

CENTROPODINÆ.

PYRRHOCENTOR, Cabanis.

63. PYRRHOCENTOR CELEBENSIS (Quoy & Gaimard), Voy. Astrol. Zool. i. p. 230, pl. 20, "Menado" (1830).

Centropus bicolor, Cuvier, Mus. Paris, *fide* Pucheran, Rev. et Mag. Zool. 1852, p. 472; Lesson, Tr. p. 137 (1831).

Hab. Menado (*mus. nostr.*); Gorontalo (*Forsten*).

Tr. Z. S. viii. p. 56.

I cannot find that Cuvier ever published his title of *C. bicolor*. A second species of this subsection inhabits the Philippines (*P. unirufus*, Cab.). But it is not unlikely that Cabanis's species is the same as *C. melanops*, Less. ex Cuv., said to have been obtained by the Paris Museum from Java (*conf.* Pucheran, *op. cit.* p. 473). *C. melanops* is certainly not a Javan bird; and though Professor Schlegel has identified it with *C. rufipennis*, Illiger, it belongs to a different group of Coucals. Notwithstanding the opinion of the learned Professor, of Prince Bonaparte, who made it equal to *C. medius*, Müller, and Dr. Cabanis, Mr. Cassin appears to have correctly identified it with *C. nigrifrons*, Peale. *C. ateralbus*, Less., ex New Ireland, is a closely allied form.

In *P. celebensis*, the fully adult bird loses the bright yellow-rufous chin-, throat-, neck-, and breast-plumage of the younger bird. These parts become very pale fulvous, and contrast with the dark chestnut of the remaining lower region. In this state Cuvier's title of *bicolor* is applicable. The young bird is bright rufous throughout; and, judging by analogy, the Philippine *P. unirufus*, Cab., is the young bird of *C. melanops*, Less.,=*C. nigrifrons*, Peale.

CENTROCOCCYX, Cabanis.

64. CENTROCOCCYX AFFINIS (Horsf.), Trans. Linn. Soc. xiii. p. 180, "Java" (1821).

Centropus medius, Bernst. Nat. Tijdschr. Ned. Ind. xxi. p. 27; J. für Orn. 1860, p. 269.
—— *rectunguis*, Strickl., ap. Schlegel, Mus. Pays-Bays, *Cuculi*, p. 69.

Hab. Macassar (*mus. nostr.*); Java (*mus. nostr.*).

The red-and-black Coucals of the Indian region form a natural and well-defined group; and I concur with Dr. Cabanis in the propriety of separating them from the African genus *Centropus*. Notwithstanding the labours of Dr. Cabanis and Professor Schlegel, the species are far from being clearly established. Examples of two species from Celebes are in my collection, and would, were I to follow Professor Schlegel, be referable to *C. rectunguis*, Strickl., a title made by the learned Professor to include most of the smaller Asiatic Coucals and even an African species.

An examination of a considerable series of this group has led me to conclusions widely differing from those contained in the Catalogue of the Leyden Museum.

The difficulties which meet a student of the genus *Centrococcyx* arise from the general resemblance in the plumage of its members, the blue, the green, or the purple hue of the black portion, and the deeper or less intense shades of the rufous not being sufficiently striking and well marked, except in perfect plumage, to be relied on as distinguishing characters. We also find in the Coucals, as in other natural groups the members of which are numerous, the colouring of the adult in one species representing, more or less, the transition colouring of the young of another species. Thus the dingy greenish-brown hue of the rectrices in an immature *C. rectunguis* changes to glossy dark green in the next stage, and is again converted into deep blue in the adult bird. But in the common Indian Crow-Pheasant the colour of the rectrices is arrested at the green stage, and green remains the hue of that part of the plumage in the fully adult bird. A complete series of fully adult examples from all parts is consequently essential before characters Tr. Z. S. viii. founded on the colouring can be relied on. Another source of difficulty is the extreme variability p. 57. of the plumage in the first and second years, the young wearing a livery greatly resembling in general characters the adult garb of Australian *C. phasianus* and its allies. It is likely that this variability is more apparent than real, and that each species, as in *Eudynamis* for instance, has special phases of immature plumage peculiar to itself. Happily certain characters are always present whereby typical specific groups can be separated from one another. The most important are the dimensions and the form of the bill. Three distinct groups of Asiatic Coucals can thus be separated; and as Java is the only known locality where all three are represented, we may use the Javan species as standards:—

First, *C. bubutus*, Horsf., as the type of the large species, such as:—*C. sinensis*, Stephens, ex China; *C. rufipennis*, Illiger, India and Ceylon; *C. eurycercus*, A. Hay, Malacca; *C. borneensis*, Bp., Borneo; and the very distinct *C. chlororhynchus*, Blyth, ex Ceylon. This group appears to be unrepresented in Celebes; nor has it been discovered in the Philippines or in Formosa.

The second group comprises species smaller in size, with short, but proportionally very high bills, the diminished length of the bill making it appear disproportionately broad at the base. The Javan representative is *C. affinis*, Horsf. An identical form inhabits Flores; and a somewhat larger species is found in Ceram, which, if the same as the Amboyna *Centrococcyx*, must stand as *C. medius*, Bp., ex Müller. A Macassar individual, collected by Mr. Wallace, although in young plumage, bill pale flesh-colour, and plumage streaked and mottled, so closely resembles Javan *C. affinis* in dimensions and form of the bill, that I cannot separate it.

The third group consists of the smallest species, represented in Java by *C. javanensis*, Dumont, =*C. lepidus*, Horsf. In these the bill is a miniature resemblance of that of the second group. The upper tail-coverts are highly developed, or, in other words, they are the tail-coverts of the *C. affinis* group. *C. bengalensis*, Gm., of India; *C. viridis*, Scop., of the Philippines; *C. moluccensis*, Cab., ex Bernst., of Ternate, very near to *C. javanensis*, but with a proportionately longer tail; and *C. dimidiatus*, Blyth, =*C. lignator*, Swinh., of Formosa and China, come within these limits. Malaccan and Banjermassing individuals scarcely differ from the Javan species; and, judging from the measurements given by Professor Schlegel, representatives occur in Ceram, Sumbawa, Bangka, Sumatra, and Amboyna.

A Celebean example of a young bird, with a pale bill and buff-streaked plumage, offers no distinctive characters, either in its proportional dimensions or in the form of the bill, whereby it can be separated from *C. javanensis*. Yet it must be recollected that the adult bird may present characters more than enough to stamp it as distinct. *C. rectunguis*, Strickland, a perfectly distinct species, as yet only known from Malacca, is a miniature *C. rufipennis*. By its external structure it belongs to the first group. The bill is long and much compressed. The wings are short and much rounded, the seventh quill, if any thing, the longest. The claw of the hallux is short, and therefore appears straight; in character, it is the claw of the large species, shortened in proportion to the size of the bird. In the second and third groups the hind claws are not proportionately diminished, and therefore appear disproportionate when compared with those of the large species. The upper surface of the tail is a deep, rich, almost purple blue. The nape is glossy violet-blue, contrasting with the duller green-black of the head. The adolescent plumage possesses characters peculiar to the species. From this it will be seen that it has no characters in common with the members of the second and third groups. It does not appear to be contained in the Leyden Museum.

Tr. Z. S. viii. p. 58.

The following is a synopsis of the smaller Asiatic Coucals, together with the dimensions of the individuals I have had access to. *Cuculus tolu*, Gm., ex Madagascar, seems to belong to the Asiatic and not to the African section of Centropodinæ.

A.

1. *Centrococcyx affinis* (Horsf.), Trans. Linn. Soc. xiii. p. 180, "Java" (1821).

Cuculus totu, Gm., ap. Raffles, Trans. Linn. Soc. xiii. p. 285, is either the Sumatran form of this species or else of *C. javanensis*.

Hab. Java, Sumatra (?), Celebes, Flores.

2. *Centrococcyx medius* (Bp.), ex Müller, Consp. i. p. 108, "Amboyna" (1850).

Professor Schlegel applies this title to the Amboyna species. Prince Bonaparte includes the Javan form.

Hab. Amboyna, Ceram.

B.

1. *Centrococcyx javanensis* (Dumont de Ste. Croix): Dict. Sc. Nat. xi. p. 144, "Java" (1818).

Centropus lepidus, Horsf. Trans. Linn. Soc. xiii. p. 180, "Java" (1821).

Centropus pumilus, Less. Traité, p. 136, "Java" (1831).

Lesson described partly from the example on which Dumont founded the title of *javanensis*. My Bornean example is smaller than Javan individuals.

Hab. Java, Malacca, Banjermassing, Celebes.

2. *Centrococcyx viridis* (Scop.), Del. Fl. Faun. Insub. ii. p. 89 (1786), "Philippines," ex Sonn.

Centropus philippensis, Cuv. R. An. i. p. 426 (1817), ex Pl. Enl. 824, "Philippines."

Corydonix pyrrhopterus, Vieill. Enc. Méthod. iii. p. 1353, ex Pl. Enl. 824, "Philippines" (1823).

Centropus molkenboeri, Bp. Consp. i. p. 108, descr. orig. (1850), "Philippines."

In the first edition of the Règn. An., Cuvier erroneously quotes Pl. Enl. 884. In the edition of 1829 this error is corrected. Vieillot founded his species on Pl. Enl. 225—also an obvious error. I am not acquainted with this species. It is admitted as perfectly distinct by Professor Schlegel. Tr. Z. S. viii. p. 59.

Hab. Philippines.

3. *Centrococcyx moluccensis*, Cab., ex Bernst. Mus. Hein. iv. p. 113 (1862), "Tinor" (Timor?).

The types of Bernstein's MS. title *moluccensis*, in the Berlin Museum, were from Ternate, Is Tinor a misprint for Timor or Tidore?

Hab. Ternate.

4. *Centrococcyx bengalensis* (Gm.), Syst. Nat. ed. 13, i. p. 112 (1788), "Bengal," ex Brown, pl. 13.

Corydonix maculatus, Vieill. Enc. Méth. iii. p. 1353 (1823), ex Brown, pl. 13.

Centropus pygmæus, Hodgs. Gray's Zool. Misc. p. 85 (1844), "Nipaul."

Centropus viridis, Scop., ap. Blyth, Jerdon, Horsf. & Moore, and Swinhoe.

The following titles are usually associated with this species;—*Polophilus lathami*, Leach, Zool. Misc. pl. 56, described from a British Museum specimen; locality unknown. The species is undeterminable, Leach's plate and description being insufficient.

Centropus rufinus, Cuv. R. An. (1817), p. 426, and *Polophilus rufus*, Stephens, Gen. Zool, *Aves*, ix. p. 44 (1815), titles founded on Levaillant's 221st plate (Ois. d'Afr.), would take precedence of *C. affinis*, Horsf., if, as suggested by Professor Sundevall, Levaillant figures the Javan bird (Krit. Framst. p. 48). Dr. Cabanis deems it more probable that the "Lesser Indian Coucal" formed the subject of Levaillant's plate. From the figure it is impossible to decide which of these two opinions is correct; while Levaillant's mendacious account only tends to mislead us.

Hab. Bengal, Mysore, Central India, Burma.

5. *Centrococcyx dimidiatus* (Blyth), J. A. S. B. 1842, p. 945, "Chusan."

Centropus lignator, Swinhoe, Ibis, 1861, p. 48, ex Formosa, Amoy, Hong Kong.

Centropus viridis (Scop.), ap. Swinhoe, P. Z. S. 1863, p. 266, "South China, Formosa;" Ibis, 1870, p. 235, "Hainan."

It is not yet satisfactorily determined whether the Chinese Lesser Coucal is a distinct species —and if not, whether it is the same as *C. viridis* (Scop.) or *C. bengalensis* (Gm.).

Hab. South China, Hainan, Formosa (*Swinhoe*).

Tr. Z. S. viii.
p. [illegible]

Dimensions.

	Wing.	Tail.	Tarsus.	Bill.	Claw.	
	inches.	inches.	inches.	inch.	inch.	
C. affinis, *Horsf.*	7·000	9·750	1·8750	0·6825	1·125	Java. Not quite adult.
" "	6·875	9·375	1·7500	0·6250	1·250	Macassar. ♀ young.
" "	6·750	9·625	1·7500	0·6825	1·125	Flores. Moulting into adult plumage.
C. medius, *Bp.*, ex Müll. . .	7·875	10·000	2·1250	0·7500	1·375	North Ceram. ♀ adult.
C. javanensis, *Dumont* . .	6·250	7·875	1·5000	0·6250	....	Java. Not quite adult; claw broken.
" " . .	5·875	7·250	1·5000	0·6250	....	Banjermassing. Adult; hind claw broken.
" " . .	5·375	6·875	1·5625	0·5625	0·875	Penang. Very young.
" " . .	6·125	8·375	1·7500	0·6250	1·125	Malacca. Adult.
" " . .	6·000	8·625	1·5625	0·6250	1·125	Macassar. Young.
?C. moluccensis, *Cab.*	6·125	9·000	1·6250	0·6250	1·000	Timor. Moulting into adult plumage.
C. bengalensis, *Gm.*	6·500	8·000	1·2500	....	1·000	Jerd. Birds of Ind. i. p. 351.
C. rectunguis, *Strick.* . .	6·375	9·000	1·7500	1·0000	0·625	Malacca. Adult.
" " . .	5·875	8·375	1·7500	0·9375	0·625	Malacca. Young.

65. CENTROCOCCYX JAVANENSIS (Dumont de Ste. Croix), Dict. Sc. Nat. xi. p. 144 (1818), "Java"

Centropus lepidus, Horsf. Trans. Linn. Soc. xiii. p. 180 (1821), "Java."

Centropus pumilus, Less. Traité, p. 136 (1831), "Java;" Pucheran, Rev. Mag. Zool. 1853, p. 56.

Centropus affinis, Horsf., ap. Bernst. Nat. Tijdschr. Ned. Ind. xxi. p. 27; J. für Orn. 1859, p. 185, 1860, p. 269.

Hab. Macassar, Java, Malacca, Banjermassing (*mus. nostr.*).

An interesting account of the habits and nesting of this species in Java, and of the peculiar structure of its spinal column, has been given by Bernstein (J. für O. *l. c.*); also detailed observations on parts of its internal anatomy, and of that of *C. affinis* (Horsf.), by the same author, in the Tijdschrift (*l. c.*). The skeleton of the Celebean bird will have to be compared with that of the Javan before the absolute identity of the two species can be established.

PASSERES.

ORIOLIDÆ.

BRODERIPUS, Bonaparte.

66. BRODERIPUS CORONATUS (Swains.): An. in Menager. p. 342 (1837), "Java."

Oriolus horsfieldii, Bp. Consp. p. 348 (1850), "Java."

Oriolus galbula, ap. Horsf. Trans. Linn. Soc. viii. p. 152, "Java."

Oriolus hippocrepis, Wagler, part., Syst. Av. *Oriolus* (1827).

Oriolus indicus, Schlegel, Mus. Pays-Bas, *Coraces*, p. 102.

Hab. Java (*mus. nostr.*); Macassar, Menado (*Wallace*); Bougka, Gorontalo (*Von Rosenberg*).

Tr. Z. S. viii. p. 61.

I have compared two Macassar male examples collected by Mr. Wallace with a large series of Javan individuals, and have failed in detecting any valid specific differences. The black-naped Orioles, before attaining their full plumage, pass through a stage wherein the two centre rectrices retain the olive-green hue found in younger birds, while they have already put on the black feathers which surround the head, and the full bright adult yellow plumage of the entire under surface, the crown, the neck, and the rump, the plumage of the back alone showing immaturity by traces, more or less, of dingy greenish-yellow. It would seem that the central pair of olive-coloured rectrices are not moulted and replaced by a pair of new black feathers, but rather that the olive-green hue changes gradually into black, commencing from near the tips, which are pure yellow at the earliest stage, and thence passing upwards. In adult Javan examples the lesser wing-coverts are tipped with yellow, thus forming a conspicuous yellow speculum. But in Javan examples in the stage of plumage above described, these yellow tips are frequently absent, or only commencing to be developed. The two Macassar examples are in the intermediate stage of plumage described above: the one has no yellow tips to the lesser wing-coverts; in the other they are just appearing. Whether in perfect plumage the yellow alar bar is wanting, as in the Sula *B. frontalis*, has yet to be ascertained. In the mean time I shall retain the Macassar Oriole under the title of the Javan bird. The Macassar species is somewhat larger. Wing $5\frac{6}{8}$, tail $4\frac{4}{8}$, bill $\frac{7}{8}$.

The only Menado example I have been able to examine is in the intermediate stage of plumage, with green middle rectrices and no alar bar. It differs in that the black coronal ring does not unite at the nape, the yellow of the crown being thus confluent with that of the nape. As indications of the complete black circle in *Broderipus* appear in the earliest stages of plumage, this break in the coronal ring cannot be a sign of nonage. The dimensions differ from those of the southern form. Wing $5\frac{2}{8}$, tail $4\frac{5}{8}$, bill $\frac{7}{8}$. It possibly represents a distinct species.

TURDIDÆ.

Geocichla, Kuhl.

67. Geocichla erythronota, Sclater, Ibis, i. p. 113, "Macassar" (1859). (Pl. VI. fig. 2, *in orig.*)

Hab. Macassar (*Wallace*).

This species and *G. interpres* (Kuhl) form a section of the genus which perhaps deserves a subgeneric title.

Turdus avensis, J. E. Gray, Griffith, Anim. Kingd. Birds, i. p. 530, pl. —, named from an Indian drawing, is either *G. interpres* or else an unknown Burmese representative form.

TIMALIIDÆ.

Tr. Z. S. viii. p. 62.

Trichostoma, Blyth.

68. Trichostoma celebense, Strickland, Contr. Ornith. 1849, p. 128, pl. —, "Celebes."

Hab. Macassar (*Wallace*).

A species of the above genus, collected by Mr. Wallace, is referred, with some doubt, to the bird figured and described by the late Mr. Strickland. The chin and throat are white; the rest of the under surface is washed with pale ferruginous faintly tinged with brown. The upper plumage and wings are dark olive-brown, the loose plumes of the lower back being tinged with rusty, and the upper tail-coverts being distinctly rust-coloured. The outer edges of the rectrices are rusty brown. Lores and cheeks dingy white. Wing $2\frac{7}{8}$, tail $2\frac{3}{8}$, tarsus 1.

While evidently belonging to the genus *Trichostoma*, this species differs structurally from *T. bicolor* (Lesson) of Sumatra and Malacca, by having the rictal bristles but slightly developed and the tail proportionally short.

PITTIDÆ.

Melanopitta, Bonaparte.

69. Melanopitta forsteni (Bp.), Consp. i. p. 256, "Celebes" (1850).

Pitta melanocephala, Forsten (nec Wagler), Schlegel & S. Müller, Verhandel. Zool. *Aves*, p. 19, "Tondano;" Westerman, Bijdr. i. pt. 6. p. 46, pl. 2; Schlegel, Vog. Ned. Ind. *Pitta*, p. 5, pl. 2. f. 1.

Brachyurus forsteni, Bp. Elliot, Monogr. p. 83, pl. 24; Wallace, Ibis, 1864, p. 106.

Hab. Kema, Tondano (*Forsten*).

Erythropitta, Bonaparte.

70. Erythropitta celebensis (Forsten), Schlegel & S. Müller, Verhandel. Zool. *Aves*, p. 18, "Tondano;" Westerman, Bijdr. i. pt. 6. p. 46, pl. 3; Schlegel, Vog. Ned. Ind. *Pitta*, p. 17, pl. 4. fig. 4; Wallace, Ibis, 1864, p. 106.

Brachyurus celebensis (Forst.), Elliot, Monogr. p. 67, pl. 17.

Hab. North Celebes (*Forsten*).

This species was found to be scarce by Mr. Wallace (Ibis, 1860, p. 142). When remarking that three species of *Pitta* inhabited Celebes, Mr. Wallace (*l. c.*) was probably misled by Bonaparte's Conspectus, wherein *P. mülleri*, Bp., is stated to be from Celebes instead of Borneo.

Tr. Z. S. viii. p. 63.

SAXICOLIDÆ.

Monticola, Boie.

71. Monticola solitaria (P. L. S. Müller), Syst. Nat. Suppl. p. 142. no. 46 (1776), ex Buffon, Pl. Enl. 564. f. 2.

Le Merle solitaire de Manille, Montb. Hist. Nat. Ois. iii. p. 363. no. 1, descr. orig. ex Sonnerat; Pl. Enl. 636, ♂; 564, f. 2, ♂ vel ♀ adolesc.

Turdus manilla, Boddaert, Tab. Pl. Enl. 636 (1783).

Merula solitaria philippensis, Briss. Orn. ii. p. 272. no. 32, "Ins Philipp.," descr. orig. ex Poivre (avis juv.?).

Le merle solitaire des Philippines, Montb. op. cit. p. 364. no. 2; Pl. Enl. 339, ex Brisson, no. 32 *.

Turdus philippensis, P. L. S. Müller, op. cit. p. 145. no. 59, ex Buffon, Pl. Enl. 339 (1776).

Turdus philippensis, Bodd. op. cit., ex Buffon, Pl. Enl. 339 (1783).

Turdus eremita, Gm. Syst. Nat. 13th ed. i. p. 833 (1788), ex Brisson, no. 32.

Merula solitaria manillensis, Brisson, op. cit. p. 270. no 31, "Manilla," descr. orig.

Turdus manillensis, Gm. op. cit. p. 833 (1788), ex Brisson, no. 31.

Turdus manillensis, auct.; Schlegel, Faun. Jap. *Aves*, p. 67.

Hab. North Celebes (*Forsten*); Philippines (*type*); China, Formosa, Japan (*Swinhoe*).

There seems little doubt that the *Merle solitaire de Manille* and the *Merle solitaire des Philippines* of Montbeillard are the same species in different phases of plumage. This was Montbeillard's own opinion (*op. cit.* p. 365). The most recent authors, however, have continued to treat them as distinct.

PRATINCOLA, Koch.

72. PRATINCOLA CAPRATA (Linn.), Syst. Nat. ed. 12, i. p. 335. no. 33, "Luzon" (1766), ex Brisson, Orn. iii. p. 440.

Hab. Macassar (*Wallace*); Philippines (*mus. nostr.*); common all over India (*Jerdon*); Tonghoo (*mus. nostr.*); Aracan (*Blyth*); Java (*Horsfield*); Nepal (*Hodgson*); Moulmein, Lombock, Timor, Flores (*mus. nostr.*); Simla (*Beavan*); Coorg, Candeish (*mus. nostr.*).

An example of a young male individual of this species was collected by Mr. Wallace at Macassar. It in no way differs from Philippine specimens in my collection.

Examples from the localities above cited agree well in their dimensions. Those from Candeish are larger, but not so large as the Ceylon *P. atrata*, Blyth.

SYLVIIDÆ.

Tr. Z. S. viii. p. 64.

ACROCEPHALUS, Naumann.

73. ACROCEPHALUS ORIENTALIS (Bp.), Consp. i. p. 285 (1850), ex Schlegel.

Salicaria turdina orientalis, Schlegel, Faun. Jap. *Aves*, p. 50, pl. 21, "Japan."

Acrocephalus magnirostris, Swinh. Ibis, 1860, p. 51, "Amoy, Shanghai."

Hab. Celebes (*Schlegel*); Menado (*mus. nostr.*); Japan (*Schlegel*); China (*Swinhoe*).

Two examples of a large Reed-Warbler from Menado agree best with Amoy individuals.

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* Montbeillard's account contains internal evidence sufficient to prove that it was compiled from Brisson's description. The plate (339) appears also to have been drawn from Brisson's description only. This will explain the unnatural colouring of the head.

I therefore provisionally refer them to the Chinese species. They, however, differ from my examples of *A. orientalis* (Amoy), *A. brunnescens* (Coorg), and *A. arundinaceus* (Linn.) (Holland), in having the rectrices conspicuously tipped with dirty white. The proportion of the quills in these examples does not exactly coincide with the proportions existing in the other species alluded to; nor do the dimensions completely agree.

	Bill.	Wing.	Tail.	Tarsus.
	inch.	inches.	inches.	inch.
A. arundinaceus (*Linn.*)	·4375	3·5625	3·250	1·0000
A. brunnescens (*Jerd.*)	·5625	3·4375	3·250	1·1250
A. orientalis (*Bp.*)	·5625	3·2500	3·000	1·1250
Acrocephalus, sp., ex Cashmere	·6250	3·4375	3·500	1·1875
,, ,, Menado	·5625	3·4375	3·000	1·1250

A. arundinaceus (Linn.). First long primary nearly as long as second, which is longest; third shorter than first.

A. brunnescens (Jerd.). First much shorter than third and fourth, which are longest. In one example the third is longest; in another the fourth is longest.

A. orientalis (Bp.). Second longest, third nearly equal to second, first equal to fourth.

Ex Menado. Second longest, first nearly equal to third, first longer than fourth.

Ex Cashmere. Second equal to fourth, third longest; first somewhat shorter than second and fourth, which are nearly equal to third.

The Cashmere example seems to belong to a distinct species, and differs from a *A. brunnescens* of Southern India in its longer and stouter bill, longer tail, and in the upper plumage being darker brown.

CISTICOLA, Kaup.

74. CISTICOLA CURSITANS (Franklin), P. Z. S. 1831, p. 118.

Sylvia cisticola, Temm. Man. d'Orn. i. p. 228 (1820).

Cisticola schœnicola, Bp. Birds of Europe, p. 12 (1838).

Hab. Macassar (*Wallace*). For complete range *cf.* Von Heuglin, Orn. N.-O. Afr. pp. 269, 270.

Tr. Z. S. viii. p. 65. A Macassar example of a male *Cisticola*, kindly lent to me by Mr. Wallace, I am unable to distinguish from Assamese and Daccan individuals of *C. cursitans*. It is labelled *C. lineocapilla*, Gould, with the note, "tail rather more distinctly marked." Wing $1\frac{7}{8}$, tail $1\frac{15}{16}$. The range of this tiny species is very extensive.

MOTACILLIDÆ.

BUDYTES, Cuvier.

75. BUDYTES VIRIDIS (Gm.), Syst. Nat. ed. 13, i. p. 962 (1788), "Ceylon," ex Brown, pl. 33.

Hab. Menado (*mus. nostr.*).

One example, in winter plumage. Olive-green above. Upper part of breast sulphur-yellow; rest of under surface pure white, some of the ventral and under tail-coverts dashed with sulphur-yellow. Supercilium conspicuous, broad, and pure white. Agrees perfectly with examples from continental India.

Motacilla flavescens, Stephens, Gen. Zool. *Aves*, x. p. 559, is enumerated in the 'Hand-list' by Mr. G. R. Gray as a distinct species, with the habitats of the Moluccas, Celebes, Timor, and Java assigned. Stephens gave this title to Buffon's "Bergeronnette de l'île de Timor," Hist. Nat. v. p. 275. Buffon's bird belongs to that phase of plumage of *B. viridis* (Gm.) in which the superciliary stripe is yellow, the upper plumage ash-coloured, and the under yellow.

HIRUNDINIDÆ.

Hirundo, Linnæus.

76. Hirundo gutturalis, Scopoli, Del. Fl. Faun. Insubr. ii. p. 96. no. 115, ex Sonn. (1786).

L'Hirondelle d'Antique, Sonn. Voy. Nouv. Guin. p. 118, pl. 78.

Hirundo panayana, Gm. Syst. Nat. i. p. 1018, ex Sonn. (1788).

Hab. Menado (*mus. nostr.*); Indian region.

Celebean examples agree with specimens from India, Japan, China, Java, Malacca, and Morty Island. In one the crown is ashy brown, the forehead albescent. The black pectoral band is present, and the chin and throat are dirty rufous; on the outer tail-feathers the white mark is in the form of a diagonal oval drop. An example of an adult bird has the head steel-blue; forehead, chin, and throat deep rufous, as in the European *H. rustica*, the rufous breast being bounded by the usual black pectoral band. Wing 4½ inches.

Whether this and the other races of Chimney-Swallows which inhabit the Malay archipelago and Eastern Asia are or are not of the same species as the European bird, they undoubtedly belong to Sonnerat's *Hirondelle d'Antique*.

77. Hirundo javanica, Sparrman, Mus. Carls. pl. 100, "Java" (1789). Tr. Z. S. viii. p. 66.

Hab. Indo-Malayan region.

Mr. Wallace informs me that he found this species common at Macassar, "building its mud nests in verandahs in the town."

MUSCICAPIDÆ.

Cyornis, Blyth.

78. Cyornis rufigula, Wallace, P. Z. S. 1865, p. 476, "Menado." (Pl. VII. fig. 3, *in orig.*)

Hab. Menado (*Wallace*).

Myialestes, Reichenbach.

79. Myialestes helianthea (Wallace), P. Z. S. 1865, p. 476, "Menado." (Pl. VII. fig. 1, *in orig.*)

Hab. Menado (*Wallace*).

This is a representative form of *M. cinereocapilla* (Vieill.), differing from that species by wanting the ashy head, nape, throat, and breast of the Indian bird. The head is subcrested.

HYPOTHYMIS, Boie.

80. HYPOTHYMIS PUELLA (Wallace), P. Z. S. 1862, p. 340, "Sula Islands and Celebes." (Pl. VII. fig. 2, *in orig.*)

Hab. Sula Islands and Celebes (*Wallace*).

The azure Flycatchers form a natural section consisting of several very closely allied species, which have yet to be worked out. The group is characteristic of the Indian as distinguished from the Australian region; and Boie's generic title is here adopted in preference to classing *M. azurea*, Bodd., and its allies with the Australian *Myiagra rubeculoides*, Vig. & Horsf., and its allied species.

81. HYPOTHYMIS MANADENSIS (Quoy et Gaimard), Voy. Astrol. Zool. i. p. 174, "Menado" (1830), pl. 3. fig. 3.

Hab. Menado (*Quoy et Gaim.*).

Prince Bonaparte (Coll. Delattre, p. 81) refers this form to *Hypothymis*, where I place it with doubt, being unacquainted with the species.

Butalis hypogrammica, Wallace, Ibis, 1862, p. 350, is recorded from Celebes by Mr. G. R. Gray (Hand-list, no. 4814). Mr. Wallace cannot assure me positively that it occurs in that island. But as it is a summer visitant in China, and was obtained in Ceram and Morty Island by Mr. Wallace, it is not unlikely to be a winter resident in Celebes. *Hemichelidon griseosticta*, Swinhoe, is undoubtedly the same species; and that title takes precedence (Ibis, 1861, p. 330).

Tr. Z. S. viii. p. 67.

ARTAMIDÆ.

ARTAMUS, Vieillot.

82. ARTAMUS MONACHUS, Temm.; Bp. Conspectus, i. p. 343, "Celebes" (1850); Wallace, P. Z. S. 1862, p. 340; Ibis, 1860, p. 141. (Pl. VI. fig. 1, *in orig.*)

Hab. Mountain districts of North Celebes, as well as the Sula Islands (*Wallace*).

The diagnosis by Mr. Wallace was taken from Sula examples. Neither does it, nor do Sula individuals (*mus. nostr.*) altogether agree with the description given by Prince Bonaparte (*l. c.*).

83. ARTAMUS LEUCORHYNCHUS (Linn.): Mantissa Plant. p. 524, ex Brisson, "Manilla" (1771).

Lanius manillensis, Briss. Ornith. ii. p. 180, "Manilla," descr. orig. (1760).
—— *leucorhynchus*, Gm. S. N. ed. 13, i. p. 305, ex Brisson (1788).
—— *dominicanus*, Gm. *op. cit.* p. 307, ex Sonnerat, Voy. Nouv. Guin. p. 55, pl. 25.
? *Lanius leucogaster*, Valenc. Mém. du Mus. vi. p. 27, "Timor" (1820).
Artamus leucopygialis, Gould, P. Z. S. 1842, p. 17, "Australia."

Artamus papuensis, Temm.; Bp. Consp. i. p. 344, "Nov. Guinea, Timor."

Leptopteryx leucorhynchus (Linn.); Horsf. Linn. Trans. xiii. p. 244, "Java."

Lanius leucorhynchus, Linn.; Raffles, Linn. Trans. xiii. p. 306, "Sumatra."

Artamus leucogaster (Valenc.); Wallace, P. Z. S. 1863, p. 28; Walden, P. Z. S. 1866, p. 555*; Beavan, Ibis, 1867, p. 324.

Artamus leucorhynchus, Wallace, Ibis, 1860, p. 141.

Hab. Timor, Flores, Lombock, Bouru, and the whole archipelago from Sumatra to New Guinea, Celebes (*Wallace*); Sumatra (*Raffles*); Java (*Horsfield*); Andamans (*Beavan*); Cape York, Moreton Bay, Queensland, Mysol, Menado, Manilla, Andamans, Java (*mus. nostr.*).

I am unable to distinguish individuals of the white-bellied Swallow-Shrike inhabiting the Philippines, Andamans, Java, Lombock, Mysol, Australia, and Celebes. In coloration they appear to be absolutely identical. In dimension, with the exception of the large Celebean form, they vary but little. I have therefore included all under the oldest title given by Linnæus to the Philippine bird. The Celebean is much the largest, and ought, perhaps, to receive a separate specific name. Mr. Wallace (P. Z. S. 1863, p. 485) entitles the Timor bird *A. leucogaster*, var.; but it was from Timor specimens that Valenciennes described *A. leucogaster*.

A. mentalis, Jard. (Fiji Islands), and *A. melaleucus* (Forsten), a good species (New Caledonia), belong to this group. *A. monachus* (Temm.) ought, perhaps, to be also included.

Dimensions of Artamus leucorhynchus.

Tr. Z. S. viii. p. 68.

	Wing.	Tail.	Tarsus.	Bill from forehead.	Bill from nostril.
	inches.	inches.	inch.	inch.	inch.
Manilla	5·250	2·625	·625	·7500	·5000
Lombock	5·250	2·750	·625	·8125	·5625
Mysol	5·250	2·625	·625	·7500	·5625
Queensland	5·375	2·625	·625	·6875	·5625
Cape York	5·250	2·625	·625	·6875	·5000
Moreton Bay	5·125	2·750	·625	·6875	·5000
Java	5·250	2·500	·625	·7500	·5625
Andamans	5·125	2·500	·5625	·6875	·5000
Menado	5·625	3·000	·625	·8750	·5625

CAMPEPHAGIDÆ.

Graucalus, Cuvier.

84. Graucalus atriceps, S. Müll. Verhand. Land- en Volk. p. 190, "Celebes" (1839–44); Hartlaub, J. für Orn. 1864, p. 437.

Hab. Celebes (*S. Müller*); Ceram, Sumbawa, Flores (*Hartlaub*).

In his admirable monograph, Dr. Hartlaub (*l. c.*) describes from a Ceram male and a Sumbawa female. It is not stated whether they were compared with Celebean individuals; I therefore include these localities with some doubt. Mr. Wallace (P. Z. S. 1863, p. 485) notes only one *Graucalus* as inhabiting Flores, *G. personatus*, S. Müller.

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* [*Antea*, p. 32.—Ed.]

85. Graucalus leucopygius, Bp. Consp. i. p. 354, "Celebes" (1850); Hartlaub, J. für Orn. 1864, p. 443.

Hab. Macassar (*Hartlaub*); Macassar, Menado (*mus. nostr.*).

86. Graucalus temminckii, S. Müller, Verhandel. Land- en Volkenk. p. 191, "North-eastern Celebes" (1839–44); Hartlaub, J. für Orn. 1864, p. 446.

Hab. Gorontalo (*Forsten*, fide *Hartlaub*).

This is a most remarkable form, and seems to be rare. In 1864 only one example was contained in the Leyden Museum. Another, a male, is preserved in the British Museum. The types (for S. Müller also described the female, *l. c.*) were obtained by Forsten in North-eastern Celebes. Mr. Wallace (P. Z. S. 1862, p. 342) has added the Sula Islands to its range, on S. Müller's authority. I have failed in finding any statement of S. Müller to that effect.

Tr. Z. S. viii. p. 69.

Volvocivora, Hodgson.

87. Volvocivora morio (S. Müller), Verhandel. Land- en Volkenk. p. 189, "Celebes" (1839–44); Hartlaub, J. für Orn. 1865, p. 155. (Pl. VIII. fig. 1, *in orig.*)

Edoliosoma melanolæma, G. R. Gray, Hand-list, no. 5099, "Celebes" (1869).

Hab. Tondano, Gorontalo (*Hartlaub*); Macassar (*mus. nostr.*).

This and several Indo-Malayan and Papuan species are classed by Dr. Hartlaub (*l. c.*) under *Campephaga*, Vieillot, the type of that genus being the African *Campephaga nigra*, Vieill. This species, in its turn, Dr. Hartlaub transfers to Lesson's genus *Lanicterus*. I venture, however, to refer the Celebean bird to *Volvocivora*, Hodgs., as it is nearly allied to the type of that genus, *Lanius silens*, Tickell (1833),=*Ceblepyris lugubris*, Sundev. (1837),=*Volvocivora melaschistos*, Hodgs. (1837).

On examination I find that *Edoliosoma melanolæma*, a title published without description, refers to S. Müller's species; while the *E. morio*, of the Hand-list, no. 5097, appears to be *C. fimbriatus*, Temm. The British-Museum examples of the last are noted from Celebes; but that locality requires further confirmation.

Lalage, Boie.

88. Lalage leucopygialis, n. sp. (Pl. VIII. fig. 2, *in orig.*)

Hab. Menado (*mus. nostr.*).

S. Müller, Hartlaub, O. Finsch, and others have hitherto included Celebes within the range of the *Lalage* of Java, *Turdus dominicus*, P. L. S. Müller,=*T. terat*, Bodd.,=*T. orientalis*, Gm. Two examples of a *Lalage*, one of an adult male, and the other of an adult female, received by me from Menado, are to be readily distinguished from the Javan bird by having the lower back and rump pure white, the long upper tail-coverts only being grey. In this respect the Celebean

Lalage agrees with *L. melanoleuca* (Blyth) from the Philippines; but that species is without a white supercilium (*fide* Hartl. J. für Orn. 1865, p. 163).

This is probably the *L. leucopygialis* of Mr. Gray's Hand-list; but as no description is given, his title cannot be noticed.

The *Lalage* which inhabits South-eastern Borneo differs from the Javan form in its longer wing and broader though not longer bill.

	Wing.	Tail.	Tarsus.	Bill from nostril.	
	inches.	inches.	inch.	inch.	
Java. ♂ adult	3·375	3·000	·7500	·500	*L. dominica.*
Banjermassing. ♂ adult	3·750	3·250	·7500	·500	,, ,,
Menado. ♂ adult	3·500	3·125	·6875	·500	*L. leucopygialis.*
Menado. ♀ adult	3·500	3·125	·6875	·500	,, ,,

Lalage aurea (Temm.), Pl. Col. livr. lxiv. pl. 382. fig. 2, "Timor" (21st December 1825); Bp. Consp. i. p. 355; Coll. Delattre, p. 78; Hartlaub, J. für Orn. 1865, p. 168. Tr. Z. S. viii. p. 70.

This species is stated to occur in Celebes by Bonaparte and Dr. Hartlaub. Mr. Wallace, however, is of opinion that it cannot be considered a Celebean bird.

Artamides, Hartlaub.

89. Artamides bicolor (Temm.), Pl. Col. livr. xlvii. pl. 278, "Sumatra" (!) (June 26, 1824); S. Müller, Verh. Land- en Volk. p. 191, "Celebes;" G. R. Gray, Hand-list, no. 5091, "Banda, Celebes, Sumatra."

Hab. Menado (*mus. nostr.*).

Salomon Müller (*l. c.*) expressly states that this species inhabits Celebes, and neither Sumatra nor Banda.

DICRURIDÆ.

Dicrurus, Vieillot.

90. Dicrurus leucops, Wallace, P. Z. S. 1865, p. 478, "Celebes."

Hab. Macassar, Menado (*Wallace*).

Closely resembles *D. pectoralis*, Wallace, of the Sula Islands, but is somewhat larger in all its dimensions. The irides are stated by Mr. Wallace to be invariably milk-white, while in the Sula species and in all others known they are red.

The type of Vieillot's genus *Dicrurus*, *Corvus balicassius*, L., appears to stand alone; and it will be perhaps necessary to form a separate genus for the reception of all the Austro-Malayan Dicruridæ, whose affinities seem to be with *Chibia*, Hodgs.

NECTARINIIDÆ.

Nectariniinæ.

Arachnothera, Temminck.

91. Arachnothera ——?

Arachnothera longirostra (Lath.), S. Müller, Verhandel. Zool. *Aves*, p. 69, ex Celebes.

I have not had an opportunity of examining an example of the Celebean *Arachnothera*, and am therefore unable to determine its correct title.

Anthreptes, Swainson.

92. Anthreptes malaccensis (Scopoli), Del. Fl. et Faun. Insub. ii. p. 90. no. 62 (1786); Walden, Ibis, 1870, p. 47. no. 38*.

Tr. Z. S. viii. p. 71. *Hab.* Celebes (*Wallace*); Menado (*mus. nostr.*); Java, Sumatra, Borneo, Malacca (*S. Müller*); Sula Islands, Flores (*Wallace*); Aracan, Tenasserim (*Blyth*); Labuan (*Motley & Dillwyn*); Banjermassing (*Sclater*); Siam (*Gould*); Cambodia (*Walden*).

This must be a common species in the neighbourhood of Menado, judging from the number of examples sent from that locality.

Chalcostetha, Cabanis.

93. Chalcostetha porphyrolæma (Wallace), P. Z. S. 1865, p. 479, "Macassar;" Walden, Ibis, 1870, p. 46. no. 35*.

Nectarinia aspasia (Less.), Schlegel & S. Müller, Verhand. Zool. *Aves*, p. 58, "Macassar" (?).

Hab. Macassar (*Wallace*).

Arachnechthra, Cabanis.

94. Arachnechthra frenata (S. Müller), Verhandel. p. 173, "New Guinea, Menado" (1843); *op. cit.* Zool. *Aves*, p. 61, pl. 8. f. 1; Walden, Ibis, 1870, p. 26. no. 6*.

Hab. Celebes, Sula Islands, Mysol, Moluccas, Kaisa Island (*Wallace*); Batchian, Ternate, Aru Islands, New Guinea, Islands of Torres Straits (*G. R. Gray*); North-east coast of Australia (*J. Macgillivray*).

A. flavigastra (Gould), ex New Ireland, is closely related to this species. The male, as described by Lesson and Garnot (Voy. Coq. Zool. i. p. 344, note), is undistinguishable.

Nectarophila, Reichenbach.

95. Nectarophila grayi (Wallace), P. Z. S. 1865, p. 479, "Menado;" Walden, Ibis, 1870, p. 42. no. 30, pl. 1. f. 2*.

Hab. Menado (*Wallace*).

Æthopyga, Cabanis.

96. Æthopyga flavostriata (Wallace), P. Z. S. 1865, p. 478, pl. 29. f. 2; Walden, Ibis, 1870, p. 35. no. 18; Wallace, Ibis, 1860, p. 141*.

Hab. Menado (*Wallace*).

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* [*Antea*, pp. 76–90.—Ed.]

In the Proceedings of the Zoological Society (*l. c.*) Mr. Wallace states Menado to be the *habitat* of this species; but elsewhere (Ibis, *l. c.*) that gentleman states that he obtained this Sun-bird in a forest district beyond the Lake of Tondano, at an elevation of about 1500 feet.

A sixth species of *Nectarinia* appears to inhabit Celebes (*conf.* Walden, Ibis, 1870, p. 42. no. 30)*.

DICÆINÆ.

Tr. Z. S. viii p. 72.

DICÆUM, Cuvier.

97. DICÆUM CELEBICUM, S. Müller, Verhandel. p. 162, "Celebes;" Wallace, P. Z. S. 1862, p. 324.

Dicæum leclancherii, Lafr. Rev. Zool. 1845, p. 94, "Menado;" op. cit. 1846, p. 42; Hartl. op. cit. 1846, pp. 4, 47, 111.

Hab. Celebes, Sula Islands (*Wallace*).

PRIONOCHILUS, Strickland.

98. PRIONOCHILUS AUREOLIMBATUS, Wallace, P. Z. S. 1865, p. 477, pl. 29. f. 1, "North Celebes;" Salvadori, Atti Accad. Scien. Torino, 1868, p. 420.

Parus ——?, Wallace, Ibis, 1860, p. 141.

Hab. Mountains of Minahassa (*Wallace*).

The female scarcely differs from the male.

MELIPHAGIDÆ.

ZOSTEROPS, Vigors.

99. ZOSTEROPS INTERMEDIA, Wallace, P. Z. S. 1863, p. 493, "Macassar and Lombock;" Hartl. J. für Orn. 1865, p. 16. (Pl. IX. fig. 2, *in orig.*)

Hab. Macassar, Lombock (*Wallace*).

The above specific title was attached to a Macassar example in the British Museum by Mr. G. R. Gray, and was adopted by Mr. Wallace, who first discovered and first described the species.

100. ZOSTEROPS ATRIFRONS, Wallace, P. Z. S. 1863, p. 493, "Menado." (Pl. IX. fig. 3, *in orig.*)

Zosterops nigrifrons, Temm. Mus. Lugd.; Hartl. J. für Orn. 1865, p. 22.

Hab. Menado (*Wallace*); Gorontalo (*Mus. Lugd.*).

PLOCEIDÆ.

PADDA, Reichenbach.

101. PADDA ORYZIVORA (Linn.), Amœn. Acad. iv. p. 243. no. 16 (1759), ex Edwards, pl. 41.

Hab. Macassar (*Wallace*); Java (*Horsf.*); Sumatra (*Raffles*); Malacca (*Cantor*); Lombock (*Wallace*); Banjermassing (*Sclater*); South China (*Swinhoe*); Manilla (*Von Martens*).

Mr. Wallace informs me that this species is abundant near the town of Macassar.

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* [*Anteà*, p. 86.—ED.]

Tr. Z. S. viii. p. 73.

Munia, Hodgson.

102. Munia nisoria (Temm.), Pl. Col. 500. f. 2, "Java" (8 May, 1830); *conf.* Blyth, Ibis, 1870, p. 172; Walden, Ibis, 1869, p. 211, note*.

Hab. Macassar (*Wallace*); Java (*mus. nostr.*).

A single Celebean example in Mr. Wallace's collection, the only individual I have been able to examine, agrees well with Javan specimens. The upper tail-coverts and edges of the rectrices, however, are olive-green, and not grey as is the case in all my Javan examples. Mr. Blyth (*l. c.*) observes that the Celebean race has no pale shafts to the feathers of the upper parts; but in this Macassar individual the pale shafts are very conspicuous. The two principal characters which distinguish the Javan *M. nisoria* (T.) from the Indian *M. punctularia* (L.) are the rufous colouring of the breast-markings and the grey colour of the upper tail-coverts and edges of rectrices. In the Indian bird these are golden yellow, and the breast-markings are almost black. Moulmein individuals, again, differ from those of India in having the breast-markings rufous, and from both Javan and Indian in having the upper tail-coverts and edges of the rectrices yellowish green; nor are the breast-markings in the Moulmein race as well defined. In the race which inhabits Flores the upper tail-coverts are pale olive-green, as in the Celebean bird.

M. punctularia and *M. nisoria*, in young plumage, before the breast-markings appear and the upper coverts assume the waxy lustre found in the adult, are extremely difficult to distinguish. The Indian bird, however, is considerably larger, and has the bill much stouter. From *L. rubro-niger* and its allies, when in first plumage, they are likewise difficult to separate. The only sure characters are the sinuated commissure and massive form of the bill in *M. rubro-nigra.*

103. Munia molucca (Linn.), Syst. Nat. ed. 12, i. p. 302 (1766), ex Brisson, Orn. iii. p. 241. no. 10; Wallace, Ibis, 1860, p. 147.

Hab. Macassar (*Wallace*); Flores (*mus. nostr.*).

A Celebean example of an adult male collected by Mr. Wallace perfectly agrees with Brisson's description of Count Bentinck's specimen obtained in the Moluccas, on which Linnæus bestowed the above specific title.

104. Munia brunneiceps, n. sp. (Pl. IX. fig. 1, *in orig.*) *Conf.* Blyth, Ibis, 1870, p. 171.

Hab. Macassar (*Wallace*).

Head, chin, throat, and breast brown; abdominal stripe, vent, and under tail-coverts black; remainder of plumage dark chestnut. From a Macassar example of a male collected by Mr. Wallace. In another example from the same locality, marked a female, the head and nape are of a lighter and less decided shade of brown. Wing 2 inches. Were it not that Mr. Blyth had already remarked the imbrowned colouring of the head and neck in examples from Celebes, contained in the Leyden Museum, I should have felt less confidence in considering these Macassar individuals distinct from *M. rubro-nigra*, Hodgs.

Tr. Z. S. viii. p. 74.

* [*Anteà*, p. 53, note.—Ed.]

CORVIDÆ.

Corvus, Linnæus.

105. Corvus enca (Horsf.), Trans. Linn. Soc. xiii. p. 164, "Java" (1822); Schlegel, Bijdrag. part viii. p. 13, pl. 1. fig. 23; Mus. Pays-Bas, *Coraces*, p. 29.

Corvus validus, var., Wallace, partim, P. Z. S. 1862, p. 343.

Hab. Macassar (*Bernstein*); Limbotto, Gorontalo, Kema, Toulabello (*Von Rosenberg*); Java (*type*).

The species inhabiting Celebes has not been satisfactorily identified. By Professor Schlegel it is considered the same as that found in Java, while true *C. validus*, Temm., Bp. (Consp. i. p. 385), is from Sumatra, and does not occur in Java.

Gazzola, Bonaparte.

106. Gazzola typica, Bp. Compt. Rend. xxxvii. p. 828, "Nouvelle Calédonie," *errore* (5th December 1853); Notes Orn. Coll. Delattre, p. 6 (1854); Sclater, Ibis, 1859, p. 113.

Corvus advena, Schlegel, Bijdragen tot de Dierk. pt. viii. p. 3, pl. 2, "Sumatra," *errore* (1859); Mus. Pays-Bas, *Coraces*, p. 6, "Macassar;" Wallace, Mal. Archip. i. p. 375.

Hab. Macassar (*Wallace*).

This species has hitherto been found only in the Macassar district. Mr. Wallace (*l. c.*) alludes to it as rare. It is an anomalous form, hardly exceeding a *Lycos* in size, but with a bill equal to that of *Corvus corone*, and of much the same character. The arrangement of the quills is peculiar. The fourth much exceeds the others; and the first is very short. Prince Bonaparte separated it generically, but placed it next to *Corvus* (*Physocorax*) *moneduloides* (Less.), another unique and aberrant Corvine form, with which it has nothing in common beyond its general family relations.

This species has partly been the subject of some of the most curious mistakes in ornithological literature; and the position of the generic title *Gazzola*, Bp., whether among the Campephagidæ or the Corvidæ, depends on a correct history and explanation of how the confusion arose. In the thirteenth edition of the 'Systema,' Gmelin gave the title of *Corvus caledonicus* to Latham's "New-Caledonian Crow," a species described by Latham (General Syn. i. p. 377) from a drawing belonging to Sir Joseph Banks. This is a true New-Caledonian *Graucalus*. In the second supplement to the 'Synopsis,' Latham inserted a distinct bird (Labillardière's "Pie de la Nouvelle Calédonie") under the title of "Caledonian Crow," and called it in the supplement to the 'Index Ornithologicus' *Corvus caledonicus*. Thus there became a *Corvus caledonicus*, Gm., and a *Corvus caledonicus*, Lath., the first being a *Graucalus*, the last a *Streptocitta*, the first being a really New-Caledonian species, the last being only found in Celebes. In 1850 Bonaparte founded his genus *Gazzola*, making *C. caledonicus*, Gm., the type, and associating with it the correct synonyms of true *C. caledonicus*, Gm. Still it is evident that Bonaparte was confounding the then unique specimen in the Paris Museum of the Celebean black-and-white Crow (which was labelled "*Corvus dauricus* de la Nouvelle Calédonie") with *Corvus caledonicus*, Lath., the black-

Tr. Z. S. viii. p. 75.

and-white *Streptocitta*; for the Prince would never have identified a true *Graucalus* with either a *Pica* or a *Corvus*, and he made *Gazzola* the connecting link between the Garrulidæ and the Corvidæ. Thus the elements of confusion were these:—one *Corvus caledonicus*, Gm.; two species under that title in Latham, one of them being described as black and white; a black-and-white *Corvus* in the Paris Museum labelled "*C. dauricus* de la Nouvelle Calédonie,"—only one of the three species being a New-Caledonian bird. Three years later Bonaparte partly cleared up the confusion. He (Notes Ornith. *l. c.*) changed the title from *Gazzola caledonica* (Gm.) to that of *Gazzola typica*, Bp., on the ground that the type of his genus *Gazzola* was neither of the "deux *C. caledonicus*, de Latham" *, nor that of Labillardière, nor that of Gmelin. The question now arises whether *Corvus caledonicus*, Gm., ought to be considered the type of the genus *Gazzola*. It has been so treated by Mr. G. R. Gray (Hand-list, no. 1246). But as the Prince has described the species he founded the genus on, I have thought it best to retain *Gazzola* for that species, which is the same as *Corvus advena*, Schlegel.

MM. Verreaux and O. des Murs (Rev. et Mag. Zool. 1860, p. 432) included *Gazzola typica*, Bp., in their list of New-Caledonian birds, trusting, in all probability, to the erroneous locality on the label of the Paris-Museum specimen.

STREPTOCITTA, Bonaparte.

107. STREPTOCITTA CALEDONICA (Lath.), Ind. Orn. Suppl. p. xxv. no. 3 (1801), ex Voy. Entrecasteaux, ii. p. 226, pl. 35 (39 ?), "New Caledonia," *errore*.

Pie of New Caledonia, Labillardière, Voy. Entrecasteaux, Eng. Tr. (Stockdale), ii. p. 227, pl. 39; G. R. Gray, Cat. Birds Trop. Isl. p. 25.

Pica albicollis, Vieill. N. D. Sc. Nat. xxvi. p. 128, ex Voy. Entrecast. pl. 39.

Streptocitta caledonica, Bp. Consp. i. p. 382.

—— *albicollis*, Sclater, Ibis, 1859, p. 113; Wallace, Malay Archip. i. p. 430.

Hab. Macassar (*Wallace*, fide *Sclater*; *Mus. Brit.*).

Although Labillardière (*l. c.*) tells us, very circumstantially, the date and the occasion when and where he obtained his *Pie de la Nouvelle Calédonie*, Mr. Sclater's explanation (*l. c.*) of the probable cause of the error is most likely correct. Yet it must be borne in mind that Labillardière never set foot on the island of Celebes proper; nor does Entrecasteaux's expedition appear to have had any direct communication with that island on either of the occasions of its presence in the Moluccas. On its way from Bouru to Sourabaya, in October 1793, the expedition, after failing in its attempt to pass the Straits of Tioro, occupied several days in passing those of Boeton, and remained a day at the town of Boeton itself. During this period the French naturalist made several excursions on shore, and, as he particularly mentions, in the island of Pangasane, and one, of two hours' duration, in the neighbourhood of the town of Boeton. It is most probable therefore that this form of *Streptocitta* was obtained either on the island of Pangasane or of Boeton; for the expedition did not touch the mainland of Celebes, nor at the island of Saleyer when passing the straits of that name.

Tr. Z. S. viii. p. 76.

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* This is a good illustration of the confusion that may be created by not quoting the names of the original authors, or by replacing them with the names of subsequent authors, who may have quoted or misquoted.

I identify the species which inhabits the district of Macassar with Labillardière's bird, because it best agrees with his short description. By him the bill is stated to be "of a light black from the root to within one third of the point, the remainder is yellowish." This and the green hue of the black portion of the plumage easily distinguish the South from the North Celebean species. The bill is also more slender than that of the following species.

108. STREPTOCITTA TORQUATA (Temm.), Nouv. Rec. $75^{\text{ième}}$ livr.; Pl. Col. 444, "Celebes" (Jan. 5, 1828); G. R. Gray, Birds Trop. Isl. p. 25.

Hab. Menado (*mus. nostr.*).

I quite agree with Mr. G. R. Gray in regarding this form as specifically distinct from the true *S. caledonica*, from which it differs by its strong, jet-black bill, and by having the black portions of its plumage glossed with dark blue. Mr. G. R. Gray (*l. c.*) states that the actual individual from which Temminck's figure was drawn is in the British Museum.

In this species the first quill is barely one inch long; the fourth and fifth are nearly equal, the fifth being slightly the longest; the third is somewhat shorter than the fourth; the second still a little shorter than the third. The wing measures $5\frac{1}{2}$ inches. The second pair of rectrices exceeds the first by $\frac{6}{8}$ of an inch; the third the second by $1\frac{1}{8}$; the fourth the third by $1\frac{4}{8}$; the fifth the fourth by $1\frac{4}{8}$; and the sixth, or middle pair, the fifth by $2\frac{7}{8}$; the total length of the middle pair is $11\frac{4}{8}$; bill from nostril $\frac{6}{8}$ of an inch; tarsus $1\frac{3}{8}$.

Temminck's surmise that this species occurs in Borneo has not been, as yet, realized.

Professor Schlegel has generically separated his *Charitornis albertinæ* from *Streptocitta*; but it is difficult to seize the characters wherein it generically differs. The structure of the wings, tail, and feet is identical. The colouring of the plumage is congeneric. The nostrils are similar in form and position. The bill differs in being more arched and stouter, but it does not differ in form from that of *S. torquata* so much as the bill of *S. torquata* does from that of *S. caledonica*. In *C. albertinæ*, however, the naked spaces, which are confined to the ophthalmic region in the Celebean birds, extend to under the throat. In it also the frontal plumes are not developed and curved back as in the two species of *Streptocittæ*. Indeed the normal condition of the frontal or nasal plumes is the only external character in which *Charitornis* differs from *Streptocitta*. It seems more in accordance with the facts to regard the three species as belonging to the same natural genus, with *S. caledonica* as the connecting link. In the colouring of the plumage *C. albertinæ* only differs from *S. caledonica* by having the head white. By the black-and-yellow colouring of the bill, the South-Celebean species occupies an intermediate position between the completely black bill of *S. torquata* and the completely yellow bill of *C. albertinæ*.

Tr. Z. S. viii. p. 77.

Mr. Wallace has led us to infer (Malay Archip. i. p. 430) that *Charitornis* is confined to Celebes; but this is doubtless an error. Professor Schlegel's types were obtained in the island of Soula Mangouli; and the species has not been recorded from any other locality.

I cannot concur with the Leyden Professor in placing *Streptocitta* among the Graculidæ; though a most anomalous form, its nearest affinities seem to be with the Corvidæ.

Basileornis, Temminck.

109. Basileornis celebensis, Temm. (Mus. Lugd.); G. R. Gray, P. Z. S. 1861, p. 184. no. 2, fig. 2; Wallace, Malay Archip. i. p. 430; Ibis, 1861, pl. 9. fig. 2.

Basileornis corythaix (Wagler), Bp. Consp. p. 420 (!), nec Wagler; Sclater, Ibis, 1859, p. 113.

Hab. Menado, Macassar (*Wallace*). .

Prince Bonaparte's description is so vague that it is impossible to decide whether he described from the Celebean or the Ceramese bird.

Acridotheres, Vieillot.

110. Acridotheres cinereus, Müller (Mus. Lugd.); Bp. Consp. i. p. 420, "Celebes" (1850). (Plate X. fig. 1, *in orig.*)

Hab. Celebes (*Mus. Lugd.*); Macassar (*mus. nostr.*).

This is a well-marked species, most nearly allied to *A. javanicus*, Cab. (=*Pastor griseus*, Horsf., nec Wagl.), but readily distinguishable by the upper and lower plumage being light grey, and not dark iron-grey. All its dimensions are less; and it has the base of the mandible with traces of black, but not as marked as in its other congener, *A. fuscus* (Wagler), ap. Jerd., of continental Asia.

Tr. Z. S. viii. p. 78.

Sturnia, Lesson.

111. Sturnia ? pyrrhogenys (Schlegel), Faun. Jap. *Aves*, p. 86, "Japan, Borneo" (1842).

Lamprotornis pyrrhopogon, Schlegel, *op. cit.* pl. 46.

Hab. Japan, Borneo (*Schlegel*); Philippines (*Swinhoe*, P. Z. S. 1863, p. 302. no. 217); Celebes (*Salvin*).

Three examples, agreeing in every respect with Japanese individuals, are contained in Mr. O. Salvin's collection; and that gentleman tells me that they were all procured in Celebes. Although I have adopted Professor Schlegel's name, I have little doubt that eventually, after comparison has been made with Philippine examples, it will have to give way to *dominicanus*, Bodd., =*T. dominicanus*, Gm. These similar titles were founded on *Le Merle dominiquain des Philippines* of Montbeillard (Hist. Nat. Ois. iii. p. 396), who described it from a Philippine individual obtained by Sonnerat which was figured by Daubenton (Pl. Enl. 627. f. 2). Gmelin's title has hitherto most unaccountably been applied to the *Sturnus dauricus*, Pall. *Pastor ruficollis*, Wagler, Syst. Nat. Av. p. 92, ex Manilla, is also clearly a synonym of *T. dominicanus*, Bodd. & Gm., and not a distinct species, as enumerated by Prince Bonaparte.

One of Mr. Salvin's specimens has the chin, tips and outer edges of the quills, the under and upper tail-coverts, and the rectrices deeply tinged with bright rusty red. Traces of this hue appear in other parts of the plumage. This peculiarity in members of this group has been remarked upon by Mr. Swinhoe (P. Z. S. 1863, p. 302), and is said by him to prevail during the breeding-season. Is the species, therefore, a permanent resident in Celebes?

In *S. pyrrhogenys*, Schlegel, and *S. dauricus*, Pall., the first quill is longest, and the second nearly as long, the third and following quills being much shorter. This indicates an affinity of these two species to true *Sturnus*; and the structure of the tail and the metallic hues of the plumage strengthen the evidences of the relationship. The form of the bill is peculiar, being short and stout, albeit *Sturnine*. On the other hand, *Oriolus sinensis*, Gm., the type of *Sturnia*, Lesson, is a true *Temenuchus*, Cab.; consequently all the species falling under the latter generic title must be referred to *Sturnia*, and *Temenuchus* will have to be suppressed. A distinct subgenus will probably have to be made for *S. pyrrhogenys* and *S. dauricus*, and another for the reception of the isolated Cingalese form *Pastor senex*, Temm., =*Sturnia albofrontata*, Layard.

ENODES, Temminck.

112. ENODES ERYTHROPHRYS (Temm.), Nouv. Rec. xlv^e livr.; Pl. Col. 267, "Celebes, environs de Menado, et dans l'ile Taguatto (1st of May 1824);" Wallace, Ibis, 1860, p. 141.

Hab. N.E. Celebes, confined to the interior mountain districts, never abundant (*Wallace*).

CALORNIS, G. R. Gray.

Tr. Z. S. viii. p. 79.

113. CALORNIS NEGLECTA, n. sp.

Calornis obscura, var., Wallace, P. Z. S. 1862, p. 343.

Hab. Celebes (*mus. nostr.*); Sula Islands (*Wallace*).

Having carefully compared examples of nearly all the described species of this genus, I have no hesitation in considering the *Calornis* of Celebes and the Sula Islands distinct. In colouring it most nearly approaches *C. chalybea* (Horsf.), ex Java, with the allied races from Sumatra, Malacca, Borneo, and Cambodia; but its dimensions are much greater. From *C. obscura* (Forst.), ex Gilolo and Batchian, it can be readily discriminated by its bright green colouring. From all the members of the *C. metallica* group it may be known by the total absence of any iridescent colours. It perfectly agrees with examples from the Sula Islands.

The individuals on which this species is founded were sent from Menado in a box which contained nothing but Celebean birds. Notwithstanding, therefore, Mr. Wallace's statement (Mal. Archip. i. p. 431) that the genus does not occur in Celebes, we may, I venture to think, conclude that that island is not an exception to the general rule which prevails in the geographic distribution of *Calornis*.

The following attempt at an analysis of the species belonging to this difficult genus may perhaps assist in clearing up the confusion in which the synonymy of its members is involved. All the species are divisible into two distinct groups:—first, those in which the plumage is uniform green, varying from light to very dark green; secondly, those which have, added to the prevailing green colour of the plumage, metallic reflections of purple and violet. The uniform green species may be further subdivided into light green and dark green; while the metallic-green species are usually also distinguished by having the middle pair of rectrices much prolonged. In general terms it may be said that the first subdivision embraces all the Indo-Malayan, the second and third all the Australian forms.

A. *Uniform green plumage.*

a. Light green.

1. *Muscicapa panayensis*, Scop., ex Sonn. pl. 73, =*Turdus cantor*, Gm., ex Sonn. pl. 73, = *Turdus columbinus*, Gm., ex Montbeillard, ex Sonn., "Philippines."

2. *Turdus chalybeus*, Horsf., =*Turdus strigatus*, Horsf. (*av. juv.*), =*Lamprotornis cantor*, Gm., ap. Temm. Pl. Col. 149, "Java."

3. *Turdus insidiator*, Raffles, "Sumatra."

4. *Calornis affinis*, A. Hay, "Tipperah, Arracan, Tenasserim, Nicobars."

Tr. Z. S. viii. p. 80. It is very questionable whether these last three species are separable. To them belong the Malaccan, Sarawak, and Cambodian races, which are as yet without titles, but exhibit certain differences.

5. *Calornis neglecta*, nob., "Celebes, Sula Islands."

Turdus palmarum, Bodd., =*Turdus mauritianus*, Gm., both titles being founded on *Le Merle vert de l'île de France*, of Montbeillard; and Pl. Enl. 648. f. 2 belongs to one of these species; but to which, it is now impossible to say.

b. Dark green.

6. *Lamprotornis obscura*, Forst.; Bp. Consp. p. 417, "Gilolo." Given also from Batchian by Mr. G. R. Gray. A good species. Dark purplish green.

7. *Calornis crassirostris*, nob., "Lombock." Collected by Mr. Wallace. Very dark green. Bill high and stout as in *Aplonis*. The locality may not be correct.

8. *Calornis mysolensis*, G. R. Gray, "Mysol." Closely allied to, if not the same as, *C. obscura.*

9. *Calornis cantoroides*, G. R. Gray. Like *C. mysolensis*, only that the tail is shorter and nearly square. Considered by Mr. Wallace to be a good species (P. Z. S. 1862, p. 343).

10. *Lanius pacificus*, Gm., ex Lath., =*Calornis kittlitzi*, O. Finsch, =*Lamprotornis columbinus*, ap. Kittlitz ("Mariannes, Carolines, and Puynipet"), from the description, seems to belong to this subgroup.

B. *Green with purple and violet reflections.*

11. *Lamprotornis metallica*, Temm. Pl. Col. 226. Described from Timor and Celebes. The type was probably from Amboyna, perhaps from Australia, possibly from Timor.

12. *Calornis purpurascens*, G. R. Gray, =*C. metallica*, Temm., ap. Gould, "North and East Australia."

13. *Calornis amboinensis*, G. R. Gray, "Amboyna." Closely resembles the Australian species, but is smaller.

14. *Lamprotornis minor*, Müll.; Bp. Consp. 417, "Timor." Wallace gives it also from Flores and Lombock. A very distinct species.

15. *Calornis viridescens*, G. R. Gray, "Aru Islands." Near to *C. amboinensis.* Also given from Dorey by Mr. G. R. Gray under the inaccurate title of *C. virescens* (P. Z. S. 1859, p. 158).

16. *Calornis gularis*, G. R. Gray, "Mysol." Apparently nothing but *C. viridescens.*

17 *Calornis nitida*, G. R. Gray, "New Ireland," ex Less. & Garnot, Voy. Coq. Zool. i. p. 343. Seems to belong to the green and purple group.

Dimensions.

Tr. Z. S. viii. p. 81.

	Wing.	Tail.	Bill.	Tarsus.	Locality.
	inches.	inches.	inch.	inch.	
C. purpurascens, *G. R. Gray*	4·250	4·750	·5625	·8750	Cape York.
C. amboinensis, *G. R. Gray*	3·875	3·500	·5000	·8125	Amboyna.
C. minor (*Müll.*)	3·875	2·500	·5000	·7500	Timor.
C. chalybea (*Horsf.*)	3·750	2·500	·5000	·7500	Java.
C. insidiator (*Raffl.*)?	4·000	2·875	·5000	·8125	Malacca.
,, ,, ?	3·625	2·625	·5000	·8125	Sarawak.
,, ,, ?	3·750	2·750	·5000	·8125	Cambodia.
C. neglecta, *nob.*	4·125	3·250	·5625	·8750	Celebes.
C. crassirostris, *nob.*	4·000	4·125	·5000	·8750	Lombock.
C. cantoroides, *G. R. Gray*	3·750	2·500	·5000	·8125	Mysol.

Scissirostrum, Lafresnaye.

114. Scissirostrum dubium (Latham), Ind. Orn. Suppl. p. xviii. no. 5 (1801), ex Lath. Syn. Suppl. ii. p. 73. no. 11, descr. orig.

Scissirostrum pagei, Lafr. Rev. Zool. 1845, p. 93, "Manado;" Mag. Zool. 1845, pl. 59; Wallace, Ibis, 1860, p. 141; Malay Archip. i. p. 430.

Hab. Scarce at Macassar, plentiful near Menado (*Wallace*).

We owe the identification of this most anomalous form with the *Lanius dubius*, Lath., to Dr. Hartlaub (Arch. Nat. xiii. 2. p. 57). Notwithstanding Prince Bonaparte's incredulity (Consp. i. p. 423), a reference to Latham's original description, taken from a specimen "at Mr. Thompson's, Little St. Martin's Lane, London, but without any history of its manners or country annexed," leaves no doubt of its identity.

The sequence and relative proportions of the quills in this species are the same as in *Calornis.* The structure of the tail is similar to that of *Calornis metallica* (Temm.). The bill resembles most nearly, in its massiveness and general outline, that of *Eulabes javanus*, Cuv.; but the peculiar position of the nostrils, situated in narrow and deep ascending grooves, is quite unique. The sole existing representative of a subfamily (?) long since extinct, its systematic place seems to be between *Calornis* and *Eulabes.*

COLUMBÆ.

TRERONIDÆ.

OSMOTRERON, Bonaparte.

115. OSMOTRERON VERNANS (Linn.), Mantissa, p. 526 (1771), ex Briss. Orn. i. p. 143, "Philipp. Ins.;" Gm. Syst. Nat. i. p. 789, ex Linn.; Wallace, Ibis, 1863, p. 320.

Columba viridis, Scop. Del. Fl. Insub. ii. p. 94 (1786), ex Sonnerat, Voy. Nouv. Guin. p. 110, pl. 64, ♂, pl. 65, ♀, "îles de Luçon et D'Antigue."

Tr. Z. S. viii. p. 82. *Treron viridis* (Scop.), Wallace, Ibis, 1865, p. 374.

—— *vernans*, Steph., Schlegel, Nederl. Tijdschr. Dierk. i. p. 70.

Hab. Philippine Islands (*type*); Penang, Sumatra, Borneo, Macassar (*Wallace*); Java, Gorontalo, Sumatra, Bangka (*Schlegel*).

The Celebean form is here retained under the title of the Philippine bird, as I have not been able to compare examples from the two localities. But both from Mr. Wallace's and Professor Schlegel's remarks on the differences existing in examples from the different Indo-Malayan islands, it seems probable that the species inhabiting the localities given above will be all found to differ from one another specifically. On the Sumatran, Javan, Bangkan, and Celebean birds Professor Schlegel has bestowed the title of *griseocapilla*. And yet he distinguishes the Javan and Celebean forms from the Sumatran and Bangkan species by remarking that the former has the head and throat dark greyish-green, while the latter has those parts "jolie gris bleuâtre."

116. OSMOTRERON* GRISEICAUDA (G. R. Gray), Mus. Brit. *Columbæ*, p. 10, "patr. incert." (1856); Wallace, ex Gray, P. Z. S. 1862, p. 344, "Sula Islands, Celebes;" Schlegel, Nederl. Tijdschr. 1866, pp. 210, 346; Wallace, Ibis, 1863, p. 319.

Hab. Celebes, Sula Islands (*Wallace*).

Professor Schlegel (*l. c.*) is unable to discover any sufficient and constant distinctions between the Javan *T. pulverulenta*, Wallace, and this Celebean species. The Sanghir bird, on account of its stouter bill, the learned Professor considers to possess greater claims, but to be very closely allied. The Sula and Javan examples I have had an opportunity of comparing exhibit the differential characters Mr. Wallace has insisted on, and they seem to me sufficient. It would perhaps be convenient to separate the maroon-backed members of *Osmotreron* under a distinct subgeneric title.

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* The type of *Treron*, Vieillot, is *C. curvirostra*, Gm., ex Lath., a species as yet not satisfactorily identified, and not *C. aromatica*, Gm., as stated by Mr. G. R. Gray (Gen. and Subgen. no. 1654). To whatever species Latham's Hook-billed Pigeon belongs, it is evident from the plate (Syn. ii. pl. 59) that in it the corneous culmen extends to the forehead. Prince Bonaparte (Consp. ii. p. 10) reduced *Toria*, Hodgs., to a synonym of *Treron*, but associated *C. psittacea* and *C. aromatica* with *Toria nipalensis*, species not possessing the characters on which Mr. Hodgson founded his genus. *Treron*=*Toria* contains only two species, *T. nipalensis* and *T. nasica*; *C. curvirostris* belongs to either the one or the other, probably (as already suggested by Mr. Wallace) to *T. nasica*, Schlegel.

Lamprotreron, Bonaparte.

117. Lamprotreron formosa (G. R. Gray), P. Z. S. 1860, p. 360; Wallace, Ibis, 1865, p. 379, "Celebes."

Hab. Macassar, Menado (*Wallace*).

Closely allied to *P. superbus* (Temm.), and hardly admitted as distinct by Professor Schlegel.

Iotreron, Bonaparte.

Tr. Z. S. viii. p. 83.

118. Iotreron melanocephala (Forster), Zool. Indica, p. 16, pl. 7, "Java" (1781*).

Ptilopus melanocephalus, Schlegel, Nederl. Tijdschr. Dierk. iii. p. 207.

Hab. Java (*type*); Flores, Sumbawa, Celebes, Sula Islands, Ceram, Sanghir (*Schlegel*); Lombock (*Wallace*).

Professor Schlegel (*l. c.*) has detailed the characters which distinguish the several races of this Pigeon inhabiting the islands of Java, Flores, Celebes, Sula, Ceram, and Sanghir. They undoubtedly should receive distinguishing titles; for until they and analogous forms are separately named, the physical geographer will only find half the truth when studying zoological catalogues. The Celebean bird has the yellow gular patch tinged with orange (*conf.* Schlegel, *l. c.*).

Leucotreron, Bonaparte.

119. Leucotreron gularis (Quoy et Gaimard), Voy. Astr. Zool. i. p. 247, pl. 29, "Menado" (1830).

Hab. Menado (*Wallace*).

C. diademata, Temm., *C. monacha*, Reinwardt, and *C. hypogastra*, Reinwardt, belonging to the *Ptilopodinæ*, were erroneously described by Temminck as inhabiting Celebes (*conf.* Wallace, Ibis, 1865).

Carpophaga, Selby.

120. Carpophaga paulina, Temm. Mus. Lugd. (*Columba ænea*, ♀, Temm., Knipp, Pig. i. pl. 4); Bp. Consp. ii. p. 35; Wallace, Ibis, 1865, p. 385; Schlegel, Nederl. Tijdschr. Dierk. iii. p. 200.

Hab. Macassar, Menado, Sula Islands (*Wallace*).

A Philippine example in the Leyden Museum is stated by Professor Schlegel (*l. c.*) to resemble the Celebean bird. But the differential characters it possesses render it likely that the Philippine bird is specifically distinct. The examples in the same collection, said to have been brought from the Mariannes (?), differ but slightly from the Celebean species, according to Professor Schlegel. Both Prince Bonaparte and Mr. Wallace rank this fine Fruit-Pigeon under *Ducula*, Hodgs. It appears to me to be a typical *Carpophaga*, Selby.

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* I have not been able to refer to the first edition of Pennant's 'Indian Zoology;' but if this species is there named, it will have to take Pennant's title (1769).

Tr. Z. S. viii.
p. 84.

Ducula, Hodgson.

121. Ducula rosacea (Temm.), Pl. Col. 578, "Timor" (1835); Wallace, Ibis, 1865, p. 386; Schlegel, Nederl. Tijdschr. Dierk. iii. pp. 201, 345.

Hab. Timor (*type*); Macassar, Flores (*Wallace*); Tolofoko (northern peninsula of Halmaheira), Little Key Island (*Schlegel*).

The Celebean habitat of this Pigeon rests on the authority of Mr. Wallace (*l. c.*). The Gilolo bird discovered by the late Dr. Bernstein is stated by Professor Schlegel (*l. c.*) not to differ from the type species.

Myristicivora, Reichenbach.

122. Myristicivora luctuosa (Reinw.), Temm. Pl. Col. livr. xlii. pl. 247 (26th Feb. 1825); Wallace, Ibis, 1865, p. 386.

Hab. Menado, Macassar, Sula Islands (*Wallace*); Menado (*mus. nostr.*).

Professor Schlegel (Nederl. Tijdschr. Dierk. iii. p. 343) mentions the fact that, in this species only, the breast and abdomen are sometimes washed or even spotted with black. Mr. Cassin (United States Exped. p. 266) pointed out that while *C. bicolor* (Scop.) possesses fourteen rectrices, the North-Australian *C. luctuosa* (=*M. spilorrhoa*, G. R. Gray) has only twelve. An examination of examples in my collection fully bears out this observation; for I find that examples of

1. *M. bicolor* (Scop.), ex New Guinea, has fourteen rectrices.
2. ,, ,, ex Batchian, has fourteen rectrices.
3. *M. luctuosa* (Reinw.), ex Sula Islands, has fourteen rectrices.
4. ,, ,, ex Menado, has fourteen rectrices.
5. ,, ,, ex Menado, has twelve rectrices.
6. *M. spilorrhoa*, G. R. Gray, ex Port Albany, has twelve rectrices.
7. ,, ,, ex Somerset, has twelve rectrices.

The Menado example, with only twelve rectrices (no. 5), appears to have originally possessed two more, which have been lost.

Zonœnas, Reichenbach.

123. Zonœnas radiata (Quoy et Gaim.), Voy. Astrol. Zool. i. p. 244, pl. 26, "Menado" (1830).

Hab. Macassar, Menado (*Wallace*).

Hemiphaga, Bonaparte.

124. Hemiphaga forsteni (Temm.), Knipp, Pig. ii. pl. 47; Bp. Consp. ii. p. 39; Wallace, Ibis, 1865, p. 387.

Hab. Menado; appears to be confined to the mountainous district of Minahassa (*Wallace*).

COLUMBIDÆ.

Tr. Z. S. viii. p. 85.

Macropygia, Swainson.

125. Macropygia albicapilla, Temm. Mus. Lugd.; Bp. Consp. ii. p. 57, "Celebes" (1857).

Hab. Macassar, Tondano, Sula Islands (*Wallace*).

126. Macropygia macassariensis, Wallace, Ibis, 1865, p. 389.

Hab. Macassar (*Wallace*).

Mr. Blyth (Ibis, 1870, p. 173) observes that *M. leptogrammica* (Temm.) is not from Java, but from Celebes. Its author (Pl. Col. 560) states that it inhabits Java and Sumatra. Mr. Wallace (*op. cit.* p. 390) restricts its range to western Java, where it is found up to an elevation of 7500 feet.

Turacœna, Bonaparte.

127. Turacœna menadensis (Quoy et Gaim.), Voy. Astrol. Zool. i. p. 248, pl. 30, "Menado" (1830).

Hab. Macassar, Menado, Sula Islands (*Wallace*).

Prince Bonaparte (Consp. ii. p. 59), apparently on Temminck's authority (Nouv. Rec. Pl. Col. 248), cites Celebes as the *habitat* of *Reinwardtœna reinwardti* (Temm.). Mr. Wallace (Ibis, 1865, p. 391) does not include Celebes within its range.

Turtur, Selby.

128. Turtur tigrina (Temm.), Knipp, Pig. pl. 43 (1811); Wallace, Ibis, 1865, p. 391.

Turtur chinensis, ap. Wallace, Ibis, 1860, p. 147.

Hab. Java, Malay peninsula, Lombock, Flores, Timor, Ternate, Celebes (*Wallace*); Menado (*mus. nostr.*).

GOURIDÆ.

Philogœnas, Reichenbach.

129. Philogœnas tristigmata (Temm.), Mus. Lugd.; Bp. Consp. ii. p. 87, "Tondano" (1857); Wallace, Ibis, 1865, p. 393, pl. 10; Malay Archip. i. p. 413.

Hab. Macassar, Menado (*Wallace*).

Chalcophaps, Gould.

130. Chalcophaps stephani, Jacq. et Puch. Voy. Pôle Sud, Zool. p. 119, "Nouv. Guinée, côte occidentale" (1853); *Peristère d'Etienne*, Homb. et Jacq. Atlas, pl. 28. f. 2 (January 1846); Wallace, Ibis, 1865, p. 394; Schlegel, Nederl. Tijdschr. Dierk. 1866, pp. 265, 345.

Hab. North Celebes (*Wallace*).

Mr. Wallace (*l. c.*) has separated the New Guinea, Waigiou, and Mysol race from that inhabiting Celebes, and conferred on it the title of *Ch. hombroni*. But as the type of *Ch. stephani* was obtained in New Guinea, if the two races are distinct, the Celebean, and not the New-Guinea bird requires a new title.

Tr. Z. S. viii. p. 86.

131. Chalcophaps indica (Linn.), Syst. Nat. 12, i. p. 284 (1766), ex Edwards, pl. 14; Schlegel, Nederl. Tijdschr. Dierk. 1866, p. 267.

Only two species of this subgenus are recognized by Professor Schlegel:—first *Ch. stephani*, as restricted above; secondly, all the remaining races of Asia, its islands, Australia, New Caledonia, and the islands of the Gilolo and Ceram groups. Members of this second species are stated by the Professor (*l. c.*) to also inhabit Celebes and New Guinea, but to be exceedingly rare in those two localities. Mr. Wallace does not appear to have met with it in either country.

Geopelia, Swainson.

132. Geopelia striata (Linn.), Syst. Nat. ed. 12, i. p. 282 (1766), "India orientali" (1766), ex Brisson.

Hab. Macassar (*Wallace*); Java (*Sparrman*); Queda (*Sonnerat*); Lombock (*Wallace*); Philippines (*Von Martens*).

I include this species on the authority of Mr. Wallace.

Calœnas, G. R. Gray.

133. Calœnas nicobarica (Linn.), Syst. Nat. ed. 12, i. p. 283, "insula Nicombar" (1766), ex Albin, pl. 47; Wallace, Ibis, 1865, p. 400; Von Pelzeln, Reise der Novara, Vögel, p. 110.

Hab. Malacca and Singapore, Celebes, Batchian, New Guinea (*Wallace*); Treis Island, Nicobars (*Von Pelzeln*).

This species is given from Celebes by Mr. Wallace in his table of distribution (*l. c.*); but it is to be inferred, from the interesting account given by the same author of its range and habits (Malay Archip. ii. p. 65), that the Nicobar Pigeon is not found on the main island.

GALLINÆ.

PHASIANIDÆ.

Gallus, Linnæus.

134. Gallus bankiva, Temm. Pig. et Gallin. ii. p. 87, "Java" (1813).

Hab. Java (*type*); Macassar (*Wallace*).

Mr. Wallace has informed me that this species occurs in Celebes.

Tr. Z. S. viii. p. 87. Gmelin's diagnosis of *G. ferrugineus* was undoubtedly taken from Latham's sixty-sixth plate, which represents the hen of the red Indian Jungle-fowl. But Gmelin first quoted Sonnerat's *Grande caille de la chine* (It. ii. p. 171), a bird that cannot, by its description, be referred to the genus *Gallus*, and which seems to have been described from an example of *T. perlatus*, Gm. Latham having erroneously identified Sonnerat's species with his own Hackled Partridge, was copied by Gmelin; hence two distinct birds are included under *Tetrao ferrugineus*, Gm.

It will be necessary to compare Celebean examples with those from other parts of Asia before we can decide to which species they belong.

TETRAONIDÆ.

Excalfactoria, Bonaparte.

135. Excalfactoria minima, Gould, P. Z. S. 1859, p. 128, "Macassar;" Birds of Asia, pt. xiii.

Hab. Macassar (*Wallace*).

A representative form of *E. chinensis* (Linn.), if admissible as distinct.

TURNICIDÆ.

Turnix, Bonnaterre.

136. Turnix rufilatus, Wallace, P. Z. S. 1865, p. 480, "Macassar."

Hab. Macassar (*Wallace*).

MEGAPODIIDÆ.

Megapodius, Quoy et Gaimard.

137. Megapodius gilberti, G. R. Gray, P. Z. S. 1861, p. 289, "Celebes;" Schlegel, Nederl. Tijdschr. 1866, p. 263.

Megapodius of small size, Wallace, Ibis, 1860, p. 142.

Hab. Celebes (*Wallace, Schlegel*); Island of Siao (Sanghir group?) (*Schlegel*).

M. rubripes, Temm. Pl. Col. 411, "Celebes," is neither from Celebes nor Amboyna (*conf.* Schlegel, *op. cit.* p. 260).

Megacephalon, Temminck.

138. Megacephalon maleo, Temminck.

Megapodius rubripes, Temm., apud Quoy et Gaim. Voy. Astrol. Zool. i. p. 239, pl. 25, av. juv., nec Temm.

Megacephalon rufipes (Quoy et Gaim.), Gray & Mitch. Genera, iii. pl. 123.
—— *maleo*, Wallace, Ibis, 1860, p. 142.
—— *rubripes*, Wallace, Malay Archip. i. p. 413.
—— *maleo*, Temm., Bp. Compt. Rend. xlii. p. 876 (1856). Tr. Z. S. viii. p. 88.
—— *rubripes*, G. R. Gray, P. Z. S. 1861, p. 288; op. cit. 1864, p. 42, nec Temm.
* [*Macrocephalon maleo*, S. Müll. ex Temm. Arch. f. Naturg. xii. i. p. 116 (1846).]

Hab. North-east Celebes (*Wallace*).

Although we owe to Messrs. Gray and Mitchell (*l. c.*) an excellent figure, and to Mr. Wallace (*l. c.*) a most interesting account of this species, no description, with a distinctive title, appears ever to have been published of the adult bird. The specific title adopted above is the name by which this *Megapode* is known to the natives of North Celebes. Temminck's only published notice of the species is in these words:—"Le grand Mégapode, connu aux Célèbes sous

* [This appears to be the title under which this Megapode should stand, as Temminck does not seem (Pl. Col. 411) to have employed the title *maleo* in a systematic form.—Ed. ex Tweeddale, MS. note, in part.]

le nom de *Maleo* ne nous est point encore parvenu" (Pl. Col. 411); and he then states that it must not be confounded with the other Celebean Megapode, *M. rubripes*, Temm. It was, however, so confounded for many years after, until Prince Bonaparte (*l. c.*) enumerated it as a distinct species in his 'Tableaux Parallèliques.' Temminck does not appear either to have published the characters of his genus *Megacephalon**.

A fine male from North-east Celebes (*mus. nostr.*) has the head, chin, throat, and entire upper half of the neck naked, with a few straggling, short, brown feathers interspersed. The quills, rectrices, upper and under tail-coverts are deep brown, nearly black, with a dark green gloss. Upper breast and entire upper surface dark brown. Under surface and flanks salmon-colour. Fifth and sixth quills equal, and longest; fourth and seventh a trifle shorter, and equal; third somewhat shorter than fourth; the second an inch shorter than the third, and the first an inch shorter than the second.

GRALLÆ.

CHARADRIIDÆ.

Charadrius, Linnæus.

139. Charadrius fulvus, Gmelin, Syst. Nat. ed. 13, i. p. 687, ex Lath. Syn. iii. p. 211, "Otaheite;" Schlegel, Mus. Pays-Bas, *Cursores*, p. 30.

Hab. Gorontalo, April, males passing into perfect plumage, female passing into perfect plumage, April 20 (*Rosenberg*); Gorontalo, passing out of perfect plumage, September 24 (*Forsten*).

The complete range of this species cannot be given until we have agreed upon the races which ought to be included under the above title. For an exhaustive essay on the subject, *conf.* Finsch and Hartl. Faun. Centralpolyn. p. 188.

Eudromias, Boie.

140. Eudromias veredus (Gould), P. Z. S. 1848, p. 38, "Northern Australia;" Harting, Ibis, 1870, p. 209.

Hab. Macassar (*Wallace*); Northern and Eastern Asia, Malay archipelago, New Guinea, Australia.

Ægialites, Boie.

Tr. Z. S. viii. p. 89. 141. Ægialites dubius (Scop.), Del. Faun. et Fl. Insub. ii. p. 93. no. 81 (1786), ex Sonn. Voy. Nouv. Guin. p. 84, pl. 46, "Luzon."

Charadrius philippinus, Lath. Ind. Orn. ii. p. 745. no. 11 (1790), ex Sonn. *l. c.*
—— *alexandrius*, Hasselq. var. δ, Gm. S. N. ed. 12, i. p. 684, ex Sonn. *l. c.*
—— *philippinus*, Scop. (!), Schlegel, Mus. Pays-Bas, *Cursores*, p. 28.
! *Ægialites minutus* (Pall.), ap. Jerdon, Birds Ind. iii. p. 641.

Hab. Ayer-pannas, 6th of August (*Von Rosenberg*).

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* [*Macrocephalon*, S. Müll. Arch. f. Naturg. xii. i. (1846), p. 116, should stand for this genus.—Ed.]

A Celebean example of a Ring-Plover, collected by Von Rosenberg, has been identified by Professor Schlegel (*l. c.*) with *Le petit Pluvier à collier de Luçon* of Sonnerat; and he has further united it with the Lesser Ring-Plover of Europe. A Philippine Ring-Plover has also been identified by Dr. von Martens (J. für O. 1866, p. 26) with the European bird, i. e. *C. curonicus*, Gm. (ex Beseke, Schr. Berl. Gesellsch. nat. Freunde, vii. p. 463. no. 48, who gave no title)—the *C. minor*, Meyer, of recent authors. In India, besides *C. curonicus* (=*C. minor*, or else *C. intermedius*, Ménétr., if really distinct), another small Ring-Plover occurs, the *Æ. minutus* (Pall.) ap. Jerdon, a species distinct from *C. curonicus*, Gm.; and the question arises whether this is not the species Sonnerat figured. As is the case in India, it is not impossible that both species inhabit the Philippines and also Celebes. Without inquiring into the validity of *C. minutus*, Pallas, and whether or not it indicates only *C. curonicus* in young plumage, as maintained by O. Finsch and Hartlaub (Orn. Ost-Afr. p. 661), these gentlemen seem to have been somewhat hasty in identifying Sonnerat's bird with *Æ. curonicus* (Gm.). Sonnerat states that the bill and feet are "noirâtes." Both Sonnerat and Buffon (Hist. Nat. viii. p. 93), who refers to Sonnerat's Philippine specimen, say that the Philippine species differs but little from the European Little Ring-Plover. But both those authors included it also among North- and South-American species, and Buffon hardly recognized the specific distinctness of *Æ. hiaticula.*

Æ. minutus (Pall.) ap. Jerd. is a smaller and more delicately formed species. In plumage it closely resembles *Æ. curonicus*, but has the head-markings better defined than those of any example of that species I have as yet seen. Its chief distinction is to be found in the smallness of the feet and shortness of the legs. A Katmandoo specimen has the legs dark reddish brown, instead of yellow. It behoves naturalists in India to investigate these differences. I am inclined to believe in there being two species, but have not been able to examine a sufficiency of individuals to form a decided opinion. Should the Philippine smallest Ring-Plover prove identical with the European *C. curonicus*, Gm., both will have to take the title of *dubius*, Scop.

Æ. minutus (Pall.) ap. Jerd. may be identical with *Charadrius pusillus*, Horsf. Trans. Linn. Soc. xiii. p. 187, ex Java.

Table of Dimensions.

Tr. Z. S. viii. p. 90.

	Wing.	Tarsus.	Tail.	Bill.	
	inches.	inch.	inches.	inch.	
Æ. curonicus (*Gm.*) ..	4·500	·8750	2·875	·5000	Piedmont. ♀. May; not quite full plumage.
” ” ..	4·750	·8750	2·875	·5000	Europe. Not quite full plumage.
” ” ..	4·625	·8750	2·625	·5625	Bengal. Not quite full plumage.
” ” ..	4·500	·8750	2·625	·5000	Malta, April 4. Not quite full plumage.
” ” ..	4·250	·8750	2·875	·5000	Malta, April 4. Not quite full plumage.
” ” ..	....*	·8750	2·750	·5625	Calcutta, February. Not full plumage.
” ” ..	4·875	·8750	2·750	·5000	Turkey, May 7. Almost full plumage.
” ” ..	4·625	·8750	2·750	·5000	Abyssinia, R. Amba, August 21. ♂. Young plumage.
” ” ..	4·875	·8750	2·750	·5000	Coorg. Winter? or first plumage?
” ” ..	4·625	·8750	2·750	·5000	Coorg. Winter? or first plumage?
Æ. minutus (*Pall.*), ap. *Jerd.*?	4·250	·7500	2·375	·4375	Candeish. Full plumage.
” ” ..	4·125	·7500	2·875	·5000	Candeish. Full plumage.
” ” ..	4·375	·7500	2·875	·4375	North-western India. Full plumage.
” ” ..	4·375	·7500	2·875	·5000	Maunbhoom, December 16. Full plumage.
” ” ..	4·125	·6875	2·875	·3750	Katmandoo. Full plumage.

* First primaries wanting.

142. ÆGIALITES PERONII (Temm.), Schlegel, Mus. Pays-Bas, *Cursores*, p. 33, "l'Archipel Indien" (March 1865); Swinhoe, P. Z. S. 1870, p. 139. (Pl. X. fig. 2, *in orig.*)

Hab. Borneo, Java, Semao (*Schlegel*); Macassar (*Wallace*).

An example of this species in summer plumage was obtained by Mr. Wallace in Celebes. Mr. Swinhoe, who has also examined this individual, agrees with me in identifying it as above. It belongs to the subsection of which *Æ. cantianus* may be regarded as the type. As it is a rare species, I append the following description:—

Forehead, from the base of the bill, pure white; a broad white superciliary stripe, confluent with the white forehead, terminates above the black ear-coverts; narrow frontal band, lores, ear-coverts, and a broad band crossing the back and reaching to the sides black; a black pectoral stripe, continued from the black sides, is narrowed into a thin line on the breast, where it does not quite meet; this excepted, the entire under surface, cheeks, under wing-coverts, and a broad nuchal collar pure white. Upper plumage pale earthy brown, most of the feathers with albescent edgings, conspicuous on the wing-coverts, some of which are edged with a purer white; primaries reddish brown; secondaries paler brown, broadly margined on the inner webs, and tipped with white, more or less cinereous; all the shafts white; three outer pairs of rectrices pure white; the next pair pale brown, much mixed with white (the rest of the rectrices are absent in this example); bill jet-black, no trace of any other colour; legs, in dried skin, pale yellow-brown. Wing $3\frac{3}{4}$, bill from forehead $\frac{6}{8}$, tarsus 1, tail $1\frac{6}{8}$.

The frontal white patch is broad, more so than in European examples of *Æ. hiaticula*. In proportion the black frontal band is narrow, and is not posteriorly edged with white.

Tr. Z. S. viii. p. 91.

STREPSILAS, Illiger.

143. STREPSILAS INTERPRES (Linn.), Syst. Nat. ed. 12, i. p. 248; Schlegel, Mus. Pays-Bas, *Cursores*, p. 43.

Hab. Celebes (*Mus. Lugd.*): almost universal.

ESACUS, Lesson.

144. ESACUS MAGNIROSTRIS (Geoffroy St.-Hilaire), Vieill. N. Dict. xxiii. p. 231 (1818), nec Latham.

Œdicnemus magnirostris, Geoffroy, Temm. Pl. Col. 387, "Celebes;" Wagler, Syst. Av. *Charadrius*, no. 3, "New Holland" (1827); Schlegel, Mus. Pays-Bas, *Cursores*, p. 22.

Charadrius giganteus, Lichtenst.; Wagler, Isis, 1829, p. 647, "New Holland."

Esacus magnirostris, Geoffroy, Gould, Hand-b. B. Austr. ii. p. 213.

—— —— (Latham), Wall. P. Z. S. 1862, p. 346, nec Latham.

Hab. Celebes (*Reinwardt*); Island of Raou, near Morty, Island of Moor, east coast of Gilolo, Waigiou, Bangka (*Mus. Lugd.*); northern and north-western parts of Australia (*Gould*); Sula Islands, New Guinea (*Wallace*).

The Australian "Great-billed Plover" of Latham (Syn. Supp. ii. p. 319, *C. magnirostris*, Lath. Ind. Orn. Supp. p. 66) has been shown by Mr. Strickland (Ann. Nat. Hist. xi. p. 337) to be nothing but *Œdicnemus grallarius* (Lath.). Consequently Illiger's genus *Burhinus* (Prodrom.

p. 250, 1811), founded on *C. magnirostris*, Lath., is synonymous, not with *Esacus*, but with *Œdicnemus*, over with generic title it takes priority.

The name *magnirostris*, Geoffroy, seems to have been an unpublished museum title. I can find no earlier description of the species than that of Vieillot's (*l. c.*), who adopted the name from the Paris Museum.

Temminck figured (*l. c.*) a Celebean example collected by Reinwardt; but he united with it as belonging to one species individuals from India, Java, and *les îles Papous*. The Celebean bird in size, he observes, holds a middle place between the Indian and the Papuan, the last being the largest and having the plumage very dark-coloured. The Indian *E. recurvirostris* (Cuv.) is a recognized species; but may not the Celebean bird prove to be a species distinct from the Australian? Professor Schlegel unites the archipelagic with the Australian; but have they been compared?

Himantopus, Brisson.

145. Himantopus leucocephalus, Gould, P. Z. S. 1837, p. 26, "Australia, Java, Sumatra;" Birds Austr. vi. pl. 24; Schlegel, Mus. Pays-Bas, *Scolopaces*, p. 106; *conf.* Blyth, Ibis, 1865, p. 35.

Hab. Gorontalo, October 9 (*Forsten*); Ayer-pannas, August 14; Limbotto, August 29; Wawou, a few days old, August 27 (*Rosenberg*); Bengal (*H. intermedius*, Blyth, J. A. S. B.?; Cat. Mus. Calc. no. 1573); rare in India, J. A. S. B. 1845, p. 459 (*Blyth*); Java, Borneo, Amboyna, Ternate, Sumbawa, Timor, Lobo (New Guinea) (*Mus. Lugd.*); Australia (*Gould*). Tr. Z. S. viii. p. 92.

RALLIDÆ.

Porphyrio, Brisson.

146. Porphyrio indicus, Horsf. Trans. Linn. Soc. xiii. p. 194, "Java" (1822, read 18th of April 1820); Schlegel, Mus. Pays-Bas, *Ralli*, p. 55; Finsch & Hartl. Faun. Centralpolyn. *Aves*, p. 170, pl. xii. f. 2.

Porphyrio smaragdinus, Temm. Pl. Col. 421, "Java" (February 1827).

Hab. Macassar, Menado (*mus. nostr.*); Tondano, 21st of April (*Forsten*); Gorontalo, 18th of April, 24th of May, 26th of June; Ayer-pannas, 11th of August (*Von Rosenberg*); Java (*type*); Ceram, Bouru (*Mus. Lugd.*); Banda (*G. R. Gray*); Sumatra (*Cassin*); Samoa Islands (*Peale*).

The absolute identity of the race of purple Coots inhabiting the islands above cited has yet to be established. To the Ceram race Temminck applied the title of *melanopterus*; that of Samoa has received the designation of *samoënsis*, Peale. It is true that the late Mr. Cassin could detect no difference between the Samoan and the Javan *Porphyrio*; and Messrs. Finsch and Hartlaub (*l. c.*) agree in uniting them. On the other hand, Professor Schlegel has observed slight distinctions between the individuals inhabiting Java, Celebes, and Ceram. I have not been able to compare a sufficient series in full plumage to form a decided opinion. But Celebean birds appear to have the throat, upper breast, and shoulder-coverts of a much richer and deeper blue than what I have found in Javan examples. I am unable to discover sufficient evidence to justify Latham's title of *poliocephalus* (Suppl. Ind. Orn. p. 58) being applied to the Philippine *Porphyrio*, rather than to the one of Continental India (*P. neglectus*, Schlegel). Latham's *Grey-headed Gallinule* (Syn. Suppl. ii. p. 375) was described by him from a drawing by General Davies, of an individual in Exeter Change. The description agrees well enough with the Indian bird, and better than with the Philippine. It is certainly not sufficiently minute to enable us to refer it without doubt to the latter species, *P. pulverulentus*, Temm. (Pl. Col. 405, erroneously given from Africa); while the probabilities are in favour of the type having come to London from India, and not from the Philippines.

HYDRALECTOR, Wagler.

147. HYDRALECTOR GALLINACEUS (Temm.), Pl. Col. 464, "Moluques" (5th of July 1828); Gould, Birds Austr. vi. pl. 75.

Parra cristata, Vieill., Schlegel, Mus. Pays-Bas, *Ralli*, p. 68.

Hab. Menado, Macassar (*mus. nostr.*); Ayer-pannas, adult male, 21st of August, adult Tr. Z. S. viii. p. 93. female, 18th of August, male partly moulting, 22nd of August, young female, 21st of August; Limbotto, adult male of small dimensions, 31st of August, female moulted, 29th of August; Gorontalo, adult female, 30th of April; Wawou, very young male, 27th of August (*Von Rosenberg*); Gorontalo, young female, 29th of June (*Forsten*); Port Essington, Eastern Australia *Gould*); Queensland (*mus. nostr.*).

Temminck (*l. c.*) states that this is a bird of passage at Amboyna. Mr. Gould (Handbook B. Austr. ii. p. 331, where an interesting account of its habits is given) mentions that it is a native of New Guinea. No authority is quoted; and I can find no confirmation of the statement. Professor Schlegel confines its range to Celebes and Australia. It breeds in Eastern Australia (Gould, *l. c.*); but unfortunately the month is not stated.

I cannot follow Professor Schlegel (*l. c.*) in referring this species to *P. cristata*, Vieill. (N. D. xvi. p. 430, ex Ceylon). Vieillot's title was given to *Le Grand Jacana verd à crête* of Temminck (Cat. Syst. Cabinet d'Ornith. p. 265. no. 403, 1807), whose description Vieillot reproduces almost word for word. Temminck's *Jacana*, as has already been shown by Dr. Hartlaub (Syst. Index, in Jard. Contrib. Ornith. 1849), is clearly *Parra indica*, Lath. (Ind. Orn. ii. p. 765, 1790). Wagler (Isis, 1832, p. 280) gives both *P. cristata* and *P. gallinacea* as the types of his genus *Hydralector*. But the generic character, "Ein aufrecht stehender Fleischkamm am Kopfe," evidently indicates *P. gallinacea* as the generic type.

My Macassar example, an adult, only differs from a Menado individual by being much smaller. Wing $4\frac{2}{8}$ against $5\frac{6}{8}$. All the other dimensions proportionally less; it is therefore probably a male. A Queensland example, a young bird, crown and nape rich rufous intermixed with black, only differs in having a much stouter bill.

GALLINULA, Brisson.

148. GALLINULA FRONTATA, Wallace, P. Z. S. 1863, p. 35, "Bouru."

Gallinula hæmatopus, Temm. Mus. Lugd.; Schlegel, Mus. Pays-Bas, *Ralli*, p. 44, "Celebes."

Hab. Menado (*mus. nostr.*); Ayer-pannas, 12th of August, adult male, 17th of August, adult female, 26th of August, female, 19th of August, young, one day old; Panybie, 9th of September, female of the year; Limbotto, 4th of September, female of the year, 31st of August, male and female of the year, 28th of August, female (*Von Rosenberg*); Amboyna (*Mus. Lugd.*); Bouru (*type*).

Professor Schlegel, in his admirable list of the birds of the Leyden Museum, the most perfect and practically useful work of its kind ever published, identifies the Celebean bird with that described by Mr. Wallace from Bouru. Temminck's MS. title of *hæmatopus* had never been hitherto used, except by Bonaparte (Comptes Rend. xliii. p. 600, 1856), and then only as a synonym of the nearly allied *G. tenebrosa*, Gould (P. Z. S. 1846, p. 20). I have therefore retained Mr. Wallace's title for the species. It must, however, be remembered that no actual comparison appears as yet to have been made between Bouru and Celebean examples. Tr. Z. S. viii. p. 94.

149. Gallinula orientalis, Horsf. Trans. Linn. Soc. xiii. p. 195, "Java" (1822).

Gallinula ardosiacea, Vieill. Galerie, ii. p. 173, pl. 268, "Java" (1825).

Hab. Java (*Horsfield*); Macassar (*Wallace*).

An example of an adult male Moor-hen, closely resembling the common European species, was collected by Mr. Wallace at Macassar. It differs from *G. chloropus* in its smaller dimensions, and the size and form of the frontal plate. I have been unable to compare it with Javan individuals; but I shall provisionally adopt the title of the race which inhabits Java. Wing $5\frac{7}{8}$, tarsus $1\frac{7}{8}$, bill from anterior side of plate to tip $1\frac{11}{16}$, greatest breadth of frontal plate $\frac{7}{16}$.

Erythra, Reichenbach.

150. Erythra phœnicura (Forsten), Zool. Ind. p. 19, pl. 9, "Ceylon" (1781).

Hab. Macassar (*Reinwardt*); Gorontalo, adult male, 20th of April, 17th of July, 1st of August—male with some black spots on sides of head, 26th of May; Negrielama, male in first plumage, 20th of September (*Von Rosenberg*); Gorontalo, male in imperfect plumage, October (*Forsten*); Bangka, Java, Borneo (*Mus. Lugd.*); China, summer visitant (?), Formosa (*Swinhoe*); throughout India (*Jerdon*); Ceylon (*type*); Zamboanga (Mindanao) (*Von Martens*); Malayan peninsula (*Eyton*).

Ortygometra, Linnæus.

151. Ortygometra cinerea (Vieillot), Nouv. Dict. d'Hist. Nat. xxviii. p. 29 (1819), ex Java; Pucheran, Rev. et Mag. Zool. 1851, p. 563; Schlegel, Mus. Pays-Bas, *Ralli*, p. 32.

Ortygometra quadristrigata (Horsf.), Finsch et Hartl. Fauna Centralpolyn. p. 164.

Hab. Gorontalo, April 21, May 23; Ayer-pannas, August 25, female in first plumage, August 25 (*Von Rosenberg*).

For the geographical distribution of this species and its complete synonymy, exclusive of the title, *conf.* Finsch and Hartl. *l. c.* Those gentlemen seemed to have overlooked in this and in one or two other instances Dr. Pucheran's valuable notices of the types contained in the Paris Museum. According to the learned doctor, *Porphyrio cinereus*, Vieill., was collected in Java by

Labillardière. This species is included in Mr. Hodgson's Catalogue of the Birds of Nepal (J. A. S. Bengal, 1855, p. 381. no. 765) under the title of *Zapornia nigrolineata*. Mr. G. R. Gray, Cat. B. Mus. Nepal, 1846, p. 143, identified *Z. nigrolineata*, Hodgs., with *Rallus superciliaris*, Eyton, ex Malacca, and in the 3rd edition of that catalogue (1863) adopted Eyton's specific title. Mr. Blyth (Cat. Calc. Mus. p. 339) includes Nepal within the range of *R. superciliaris*, Eyton. Professor Schlegel (*l. c.*) has identified Eyton's species with *P. cinereus*, Vieill.; and Drs. Finsch and Hartlaub (*l. c.*) with *R. quadristrigatus*, Horsf. The species, however, is not included in Dr. Jerdon's work as an inhabitant of India.

Tr. Z. S. viii. p. 95.

HYPOTÆNIDIA, Reichenbach.

152. HYPOTÆNIDIA CELEBENSIS (Quoy et Gaimard), Voy. Astrol. Zool. i. p. 250, "Celebes," pl. 24. f. 2; Schlegel, Mus. Pays-Bays, *Ralli*, p. 22.

Hab. Menado (*Forsten*); Gorontalo, Limbotto (*Von Rosenberg*).

This is a representative form of the Philippine *Rallus torquatus*, Linn. (Schlegel, *l. c.*). Von Pelzeln (Novara, *Aves*, p. 134), with doubt, refers an example of a young Rail from Borneo to the Celebean species.

153. HYPOTÆNIDIA STRIATA (Linn.), Syst. Nat. ed. 12, i. p. 262 (1766), ex Brisson, "Philippines."

Rallus gularis, Horsf. Trans. Linn. Soc. xiii. p. 196, "Java" (1822).

Hab. Philippines (*type*); all India and Ceylon, Burma (*Jerdon*); Sumatra (*Raffles*); Java (*Horsfield*); Cochin-china (*Diard*); Formosa (*Swinhoe*); China (*Mus. Lugd.*); Menado (*Wallace*); Banjermassing (*Sclater*).

Mr. Wallace obtained near Menado a female example of a Rail which so well agrees with Brisson's description of the Philippine bird, that I have little hesitation in making the above identification. It must, however, be noted that, in the specimen referred to, the under tail-coverts are distinctly pale rufous and black, and not white and black.

154. HYPOTÆNIDIA PHILIPPENSIS (Linn.), Syst. Nat. ed. 12, i. p. 263 (1766), ex Brisson, Orn. v. p. 163, "Philippines;" Schlegel, Mus. Pays-Bas, *Ralli*, p. 25.

Rallus pectoralis (Cuvier), Lesson, ap. Finsch et Hartl. Faun. Centralpolyn. p. 157, nec Cuv.; conf. Pucheran, Rev. et Mag. Zool. 1851, p. 276.

Hab. Macassar (*mus. nostr.*); Tondano, in September (*Forsten*); Gorontalo, April 17, 24, May; a chick newly hatched, August 4 (*Von Rosenberg*); Australia (*Gould*); New Caledonia (*Verreaux* et *O. des Murs*); Philippines (*type*).

The Celebean bird has the nape rusty as in Australian individuals. In the event of the Philippine species proving distinct, the birds from the other localities above given will require a different title. Messrs. Finsch and Hartlaub (*l. c.*) have adopted Cuvier's title of *pectoralis*, copied by Lesson (Tr. p. 536), for this species, although Dr. Pucheran (*l. c.*) had shown that the type of *R. pectoralis*, Cuv., was *R. lewinii*, Swains. (*conf.* Hartl. J. für Orn. 1855, p. 420).

Rallina, Reichenbach.

155. Rallina minahasa, Wallace, P. Z. S. 1862, p. 346, "Sula Islands, Minahassa."

Hab. Minahassa (N. Celebes), Sula Islands (*Wallace*).

156. Rallina isabellina (Temm.), Schlegel, Mus. Pays-Bas, *Ralli*, p. 16, "Celebes" (1865). Tr. Z. S. viii. p. 96.

Hab. Gorontalo, *type* (*Forsten*); Ayer-pannas, Modelido (*Von Rosenberg*).

157. Rallina (?) rosenbergii, Schlegel, Nederl. Tijdschr. Dierk. 1866, p. 213, "Kema."

Hab. Kema (*Von Rosenberg*).

SCOLOPACIDÆ.

Numenius, Linnæus.

158. Numenius phæopus (Linn.), Syst. Nat. ed. 12, i. p. 243 (1766); Schlegel, Mus. Pays-Bas, *Scolopaces*, p. 97.

Hab. Bonthain, South Celebes, March 7th (*S. Müller*); Tondano, North Celebes (*Forsten*); the Old World and Australia.

Until the breeding-grounds of the so-called distinct species of Whimbrels are discovered it is useless to attempt discriminating between them. Both the Celebean examples in the Leyden Museum possess the characters whereby Mr. Gould has distinguished his *N. uropygialis.*

159. Numenius minutus, Gould, P. Z. S. 1840, p. 176, "New South Wales;" Schlegel, Nederl. Tijdschr. Dierk. 1866, p. 348.

Numenius minor, S. Müller, Verhandel. p. 110, "Amboyna;" Schlegel, Faun. Japon. *Aves*, p. 111, pl. 67.

Hab. North Celebes, Aru Islands (*Schlegel*); Japan (*Von Siebold*); Amboyna (*S. Müller*); coasts of China (*Swinhoe*); New S. Wales, Port Essington (*Gould*).

Actitis, Illiger.

160. Actitis glareola (Gm.), Syst. Nat. ed. 13, i. p. 677 (1788); Schlegel, Mus. Pays-Bas, *Scolopaces*, p. 73.

Hab. Gorontalo, October 9th (*Forsten*); Europe, Africa, Asia and its islands.

161. Actitis hypoleucos (Linn.), Syst. Nat. ed. 12, i. p. 250 (1766); Schlegel, Mus. Pays-Bas, *Scolopaces*, p. 83.

Hab. Gorontalo, in October (*Forsten*); Europe, Africa, Australia, Asia and its islands.

Totanus, Bechstein.

162. Totanus glottis (Linn.), Syst. Nat. ed. 12, i. p. 245 (1766); Schlegel, Mus. Pays-Bas, *Scolopaces*, p. 63.

Hab. Celebes, in winter plumage (*Forsten*); Bonthain, South Celebes, in March (*S. Müller*): universal.

Tr. Z. S. viii. p. 97. 163. Totanus calidris (Linn.), Syst. Nat. ed. 12, i. p. 245 (1766); Schlegel, Mus. Pays-Bas, *Scolopaces*, p. 67.

Hab. Celebes, winter plumage, November (*Forsten*); Europe, Asia and its islands, Africa.

Limosa, Brisson.

164. Limosa uropygialis, Gould, P. Z. S. 1848, p. 38, "Australia;" Birds. Austr. vi. pl. 29; Schlegel, Mus. Pays-Bas, *Scolopaces*, p. 25.

Hab. Celebes, in November (*Forsten*); Gilolo (*Bernstein*); Java (*Van Hasselt*); Timor (*Müller*); Japan, New Zealand (*Mus. Lugd.*); Australia (*type*). (*Conf.* Finsch & Hartl. Fauna Centralpolyn. p. 177.)

Tringa, Linnæus.

165. Tringa minuta, Leisler, Nactr. Bechst. Naturgesch. Deutschlands, Heft i. p. 74 (1811–15); Schlegel, Mus. Pays-Bas, *Scolopaces*, p. 46.

Hab. Celebes, in November, winter plumage (*Forsten*); Europe, Africa, Asia, Malay archipelago, New Guinea, Australia (*Mus. Lugd.*).

166. Tringa damacensis (Horsf.), Trans. Linn. Soc. xiii. p. 192, "Java" (1822); Swinhoe, P. Z. S. 1863, p. 316; Schlegel, Mus. Pays-Bas, *Scolopaces*, p. 49.

Tringa subminuta, Von Middendorff, Sibir. Reise, Vögel, p. 222, pl. 19. f. 6 (tarsus).

Hab. Tondano, winter plumage; Tondano, male, partly in nuptial plumage, September; Gorontalo, male, winter plumage, October 9th; Celebes, moulting into perfect plumage (*Forsten*); Java (*type*); Borneo (*Schwaner*); China, Formosa (*Swinhoe*); Eastern Siberia (*Von Middendorff*); Amoor river (*Schrenck*).

Lobipes, Cuvier.

167. Lobipes hyperboreus (Linn.), Syst. Nat. ed. 12, i. p. 249 (1766); Schlegel, Mus. Pays-Bas, *Scolopaces*, p. 59.

Phalaropus australis, Temm. Mus. Lugd.; Bp. Compt. Rend. xlii. p. 421 (1856), "Celebes," *fide* Schlegel, *l. c.*

Hab. Celebes, winter plumage (*Reinwardt*); Amboyna, winter plumage (*Hoedt*); Aru Islands, in winter plumage (*Wallace*); Madras (*Jerdon*); Peninsula of Luichow, April 3rd (*Swinhoe*); high latitudes of northern hemisphere, in summer.

Are the Moluccas the only, or at least the principal, winter residence of this species? Its occurrence has only been once observed in India.

GALLINAGO, Stephens.

Tr. Z. S. viii. p. 98.

168. GALLINAGO MEGALA, Swinhoe, Ibis, 1861, p. 343, "Amoy;" Schlegel, Mus. Pays-Bas, *Scolopaces*, p. 12.

Hab. Gorontalo (*Forsten*); Gilolo, Batchian (*Bernstein*); China, Formosa (*Swinhoe*).

ARDEIDÆ.

ARDEA, Linnæus.

169. ARDEA SUMATRANA, Raffles, Trans. Linn. Soc. xiii. p. 325, "Sumatra" (1822); Jerd. Birds Ind. ii. p. 740; Gould, Birds Austr. ii. p. 296.

Ardea typhon, Temm. Pl. Col. 475, "river Gambia" (*errore*), (Sept. 5, 1829); Schlegel, Mus. Pays-Bas, *Ardea*, p. 3.

—— *rectirostris*, Gould, P. Z. S. 1842, p. 22, "New South Wales."
—— *fusca*, Blyth, Ann. Nat. Hist. xiii. p. 176, "Arracan" (1844).
—— *insignis*, Hodgs., Gray's Zool. Misc. p. 86.
Typhon robusta (S. Müll.), Bp. Consp. ii. p. 110, "Timor."
Ardea goliath, Temm., Bp. *l. c.*, "Celebes."
Ardeomega nobilis, "Blyth," Bp. *l. c.*, *nec* Blyth. (*Conf.* Blyth, Ibis, 1865, p. 36.)

Hab. Celebes (*Reinwardt*); "Inde continentale," type of *A. typhon*, Temm. (*Schlegel*); Morty Island, Batchian, Toloforo (Gilolo) (*Bernstein*); Sumatra (*Raffles*); Coburg Peninsula (*Gould*); Clarence river (Australia) (*Schlegel*); Arracan (*Blyth*); N.E. Bengal, Nepal, Sikim Terai, Assam, (*Jerdon*); Sindh (*drawing, Sir A. Burnes*); Flores (*Wallace*).

ARDEOLA, Boie.

170. ARDEOLA SPECIOSA (Horsf.), Trans. Linn. Soc. xiii. p. 188, "Java" (1822); Zoöl. Res. pl. —.

Hab. Java (*type*); Celebes (*Wallace*).

I include the Javan form of *A. leucoptera*, Bodd.,=*A. malaccensis*, Gm., on the authority of Mr. Wallace.

There appear to be four closely allied Asiatic species of *Ardeola*; but they yet require to be brought together and closely compared.

1. *A. leucoptera*, Bodd., ex Pl. Enl. 911,=*A. malaccensis*, Gm., ex Pl. Enl. 911, "Malacca," av. juv. *Buphus bacchus*, Bp., having been described from a Malaccan individual, becomes a synonym of the type species.

2. *A. grayi*, Sykes, "India,"=*A. leucoptera*, Bodd., ap. Jerdon (B. of Ind.).

3. *A. speciosa*, Horsf., "Java." Most probably the same as the Malaccan form. Stated by Professor Schlegel to also occur in Sumbawa and Borneo.

4. *A. prasinosceles*, Swinhoe, "China."

Tr. Z. S. viii. p. 99. Not recognizing the fact that Boddaert and Gmelin founded their titles on the same plate, Mr. Blyth (Ibis, 1865, p. 38) called the Indian bird *leucoptera*, Bodd., and that of the Malayan peninsula and Sumatra *malaccensis*, Gm.

Herodias, Boie.

171. **Herodias nigripes** (Temm.), Man. d'Orn. 2nd edit. part iv. p. 376, "L'Archipel des Indes" (1840); Schlegel, Mus. Pays-Bas, *Ardeæ*, p. 14, "Lac de Gorontalo, Celebes."

Not possessing a sufficient number of examples of *H. garzetta* (Linn.) and its allies to attempt an elucidation of its races, their habitats, and synonymy, I have followed Temminck, and given to the Celebean bird the title by which the Dutch zoologist distinguished the little Egret of India, of the Malay archipelago, and of New Guinea, from the European, North Asiatic, and Japanese bird. Professor Schlegel (*l. c.*) does not admit their specific distinction, and includes all under *A. garzetta*, Linn. To him we owe the important fact that Temminck founded his *A. nigripes* on examples from Java, Borneo, and Celebes now in the Leyden Museum. We are thus provided with a clue to the maze of confusion into which Prince Bonaparte (Consp. ii.) has thrown the synonymy of the White Egrets (*conf.* Schlegel, *op. cit.* p. 19).

172. **Herodias egretta** (Gm.), Syst. Nat. ed. 13, i. p. 629 (1788), ex Buff. Hist. Nat. Ois. vii. p. 377, "America;" Schlegel, Mus. Pays-Bas, *Ardeæ*, p. 17.

Hab. Gorontalo (*Forsten*).

I adopt Professor Schlegel's determination with reserve, its correctness depending on the identity of the Asiatic with the American bird. The Celebean example is probably the *H. alba* (L.), ap. Jerd. (Birds of India), =*A. modesta*, Gray & Hardw., *A. alba* vera being restricted by Professor Schlegel to Southern Europe, Northern Africa, and Western Asia. The history of the Egrets has yet to be written.

Ardetta, G. R. Gray.

173. **Ardetta sinensis** (Gm.), Syst. Nat. ed. 13, i. p. 642 (1788), ex Lath., "China."

Ardea melanoptera, Cuvier, Mus. Paris. Puch.; Rev. Mag. Zool. 1851, p. 575.
—— *melanophis*, Cuv., ap. Less. Tr. p. 573, *errore.*
—— *lepida*, Horsf. Trans. Linn. Soc. xiii. p. 190, "Java."
—— *melanotis*, Cuv., ap. G. R. Gray, Genera, iii. Append. p. 35, *errore.*

Hab. Menado (*mus. nostr.*); all India (*Jerdon*); Java (*Horsf.*); Ceylon, Arracan (*Blyth*); China, from Canton to Tientsin, Formosa, in summer (*Swinhoe*); Borneo, Philippines (*Mus. Lugd.*); Ladrone or Marian Isles (?) (*G. R. Gray*).

I cannot concur with Mr. Blyth nor with Dr. Jerdon in regarding *Ardea nebulosa*, Horsf. (*l. c.*), as belonging to this species. Horsfield's diagnosis applies far better to *Ardetta cinnamomea* (Gm.). The expression "*cauda remigibusque badiis*" appears to me conclusive.

DEMIEGRETTA, Blyth.

Tr. Z. S. viii. p. 100.

174. DEMIEGRETTA SACRA (Gm.), Syst. Nat. ed. 13, i. p. 640, ex Latham.

Hab. Menado (*mus. nostr.*).

Two examples of an Ashy Egret were received from Menado in the dark ashy phase, but wanting the crest, dorsal trains, and pectoral plumes of the breeding-plumage. Both have a narrow median white line commencing at the chin and descending, with broken intervals, down the throat. No other part of the plumage is white. The wing measures 10¼ inches; the bill, from the forehead, 3 inches; the tarsus 2¾ inches; middle toe, without the nail, 1¾ inch. The dimensions of the bill, tarsus, and middle toe are much less than those given by Dr. Jerdon of the Indian bird, *D. asha* (Sykes).

Dr. O. Finsch (Centralpolyn. p. 201) has united all the titles given to the numerous named local races of this species under Gmelin's title of *sacra*, bestowed by him on the Sacred Heron of Latham, brought by Sir J. Banks from Otaheite. A want of a sufficient number of examples prevents me from questioning the correctness of this deduction, and I therefore provisionally adopt Gmelin's title. For an elaborate essay on the species, *conf.* Finsch & Hartl. *l. c.*

NYCTICORAX, Stephens.

175. NYCTICORAX GRISEUS (Linn.), Syst. Nat. ed. 12, i. p. 239 (1766); Schlegel, Mus. Pays-Bas, *Ardeæ*, p. 58.

Hab. Gorontalo (*Forsten*); Europe, Africa, Asia, America (*Ardea gardeni*, Gm.).

176. NYCTICORAX CALEDONICUS (Gm.), Syst. Nat. ed. 13, i. p. 626, "Nova Caledonia" (1788), ex Lath. Syn. iii. p. 55; Schlegel, Mus. Pays-Bas, *Ardeæ*, p. 59.

Ardea maculata, Lath. Ind. Orn. Supp. p. lxiv (1801), "New Holland," *fide* Strickl. Ann. Nat. Hist. xi. p. 338, *av. juv.*

Hab. Macassar (*S. Müller*); Tondano (*Forsten*); Timor, Gilolo, Morty Island, Amboyna (*Mus. Lugd.*); New Caledonia (*type*); Australia (*Gould*); Cape York (*mus. nostr.*).

Ardea caledonica, Forster, *apud* Meyen (N. Act. Ac. C. L. C. xvi. Suppl. prim. p. 103), seems to be *Nycticorax manilensis*, Vigors; and I have therefore omitted the Philippines from the range of Gmelin's species.

BUTORIDES, Blyth.

177. BUTORIDES JAVANICA (Horsf.), Trans. Linn. Soc. xiii. p. 190, "Java" (1822); Schlegel, Mus. Pays-Bas, *Ardeæ*, p. 44.

Hab. Gorontalo (*Forsten*); Menado (*mus. nostr.*).

The range of this Heron cannot be accurately stated until its conspecies have been studied and defined. *Conf.* Finsch & Hartl. Faun. Centralpolyn. p. 207, by whom, however, no specific differences are admitted to exist. My Menado example is in full breeding-plumage, and conspicuously differs from Indian and Cingalese examples in having the crown and crest dark green, almost black, instead of a much lighter shade of green. Other differences are to be detected, which may not prove constant. For instance, in a Ceylon example, all the wing-coverts, Tr. Z. S. viii. p. 101.

and the four secondary quills nearest the body, are bordered with bright ochreous yellow, and not with white as in the Menado individual. If the Menado bird agrees with the Javan, Mr. Hodgson appears to have been justified in separating the continental form under the title of *chloriceps*.

CICONIIDÆ.

Melanopelargus, Reichenbach.

178. Melanopelargus episcopus (Bodd.), Tabl. Pl. Enl. (1783), ex Daubent. Pl. Enl. 906.

Ardea leucocephala, Gm. Syst. Nat. ed. 13, i. p. 642, "Coromandel" (1788), ex Buffon, Hist. Nat. Ois. vii. p. 370; Schlegel, Mus. Pays-Bas, *Ciconiæ*, p. 11.

Hab. Saoussou, in June (*Rosenberg*); Ceylon (*mus. nostr.*); all India, Burma (*Jerdon*); Java, Borneo (*Mus. Lugd.*); Tropical Africa (*Schlegel*). *Conf.* O. Finsch & Hartl. Vög. Ost-Afr. pp. 722, 723.

TANTALIDÆ.

Falcinellus, Bechstein.

179. Falcinellus igneus (S. G. Gmelin), Nov. Comm. Ac. Scient. Imp. Petropol. xv. p. 460, pl. 18* (1771).

Numenius viridis, S. G. Gmelin, *op. cit.* p. 462, pl. 19.
Tantalus castaneus, P. L. S. Müller, Syst. Nat. Suppl. p. 112 (1776), ex Marsigli.
Falcinellus peregrinus (S. Müller), Mus. Lugd., Bp. Consp. ii. p. 159, "Celebes, Java" (1857),
Ibis falcinellus, Vieill., Schlegel, Mus. Pays-Bas, *Ibis*, p. 2.
Tantalus falcinellus, Linn. S. N. ed. 12, i. p. 241 (1766).

Hab. Gorontalo, female, moulted, 30th September—male, in almost perfect plumage, 1st October—female in almost perfect plumage, September—male, moulted 30th September; Northern Celebes, male in perfect plumage; Celebes, examples in first plumage (*Forsten*); Macassar, female, moulted, March (*S. Müller*).

I do not venture on the general distribution of the Glossy Ibis, as it is still an open question whether the European, Asiatic, American, African, and Australian races are identical (*conf.* Bp. *l. c.*). S. Müller's specimen of *Inocotis papillosa* (Temm.), stated by Prince Bonaparte (*op. cit.* ii. p. 154) to have been collected in Celebes, came from Borneo (*conf.* Schlegel, *op. cit.* p. 10).

Tr. Z. S. viii. p. 102.

ANSERES.

ANATIDÆ.

Querquedula, Stephens.

180. Querquedula circia (Linn.), Syst. Nat. ed. 12, i. p. 204.

Anas querquedula, L., Schlegel, Mus. Pays-Bas, *Anseres*, p. 49.

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* J. F. Gmelin (S. N. p. 649) quotes the thirteenth plate, thus copying a misprint in S. G. Gmelin's text. The thirteenth plate represents *Caccabis rufa* (Linn.).

Hab. Limbotto, 8th January, male in imperfect plumage—6th and 13th January, females (*Von Rosenberg*); Europe, Northern Africa, Asia to Island of Formosa.

Q. humeralis, Müller (Verhandel. p. 159), described from examples obtained on the north shores of Java, is not admitted to be distinct by Professor Schlegel.

MARECA, Stephens.

181. MARECA GIBBERIFRONS, S. Müller, Verhandel. p. 159, "Celebes;" Schlegel, Mus. Pays-Bas, *Anseres*, p. 58.

Anas gracilis, Buller, Ibis, 1869, p. 41, "New Zealand."

Hab. Gorontalo, young bird and an adult male; Menado, adult male; Tondano, male; Pegoiat, female, in November (*Forsten*); Ayer-pannas, 18th August, male, 13th August, female; Panybie, 13th September, female (*Von Rosenberg*); Macassar, female (*Müller*); Timor (*Müller*); near Port Essington (*Mus. Lugd.*); Australia (*Verreaux*); near Melbourne, S. Australia (*Ferd. Müller*); New Caledonia (*Verreaux*); Flores (*Wallace*); New Zealand (*Buller*).

Professor Schlegel (*l. c.*) remarks that Celebean examples are smaller than those from other localities. It is probably this species that Mr. Gould alludes to (Handb. B. Austr. ii. p. 366) as one of the races of *M. punctata* (Cuvier) found in Australia.

DENDROCYGNA, Swainson.

182. DENDROCYGNA GUTTATA (Forsten), Mus. Lugd.; Schlegel, Mus. Pays-Bas, *Anseres*, p. 85, "Celebes."

Dendrocygna guttulata, Temm.; Wallace, P. Z. S. 1863, p. 36.

Dendrocygna guttulata, Müller, MS.; Sclater, P. Z. S. 1864, p. 300.

Hab. Limbotto, 1st September, adult male; Panybie, 12th September, adult female; Kema, 24th August, adult male and female (*Von Rosenberg*); Ternate, Gilolo (*Bernstein*); island of Kelang, Amboyna (*Hoedt*); Bouru, Ceram (*Wallace*); Goram, Aru, Little Key (*Von Rosenberg*).

183. DENDROCYGNA VAGANS, Eyton, MS.; Fraser, Zool. Typica, pl. 68, "Manilla" (1849); Schlegel, Mus. Pays-Bas, *Anseres*, p. 88; Sclater, P. Z. S. 1864, p. 300.

Hab. Tondano, December, adult female (*Forsten*); Limbotto, 9th January, adult male; Gorontalo, 27th May and 20th July, male and female; Ayer-pannas, 11th, 15th, 17th August, males and females; Limbotto, 13th September, female; Pagouat, 29th July, a nestling (*Von Rosenberg*); Macassar, E. Timor (*Wallace*); Philippines (*Cuming*); Java (*Diard*); New Caledonia (*Verreaux*). *Conf.* Hartl. & Finsch, Centralpolyn. p. 212. Tr. Z. S. viii. p. 103.

According to Mr. Sclater (*l. c.*) there appear to be three races of this Tree-Duck—the Philippine, which is the type, the Australian (*D. gouldi*, Bp.), and the one inhabiting Celebes and Timor. It is true that at a later date (P. Z. S. 1866, p. 149) Mr. Sclater maintained that the three races are not separable. Professor Schlegel mentions that this species only occurs accidentally in Java.

LARIDÆ.

Sterninæ.

Hydrochelidon, Boie.

184. Hydrochelidon nigra (Linn.), Syst. Nat. ed. 12, i. p. 227 (1766); Schlegel, Mus. Pays-Bas, *Sternæ*, p. 31.

Hab. Northern Celebes (*Forsten*, fide *Schlegel*); Northern Africa; Southern Europe; Northern and Eastern Asia.

I include this species on Professor Schlegel's authority. It has not been recorded from any other island of the Malay archipelago, although found throughout China (*Swinhoe*). Its occurrence in India rests on the evidence of specimens collected by Dr. L. Stewart (Jerd. B. of India, iv. App. p. 875); in what part of India, is not mentioned.

185. Hydrochelidon leucopareia (Natterer), Temm. Man. d'Orn. 2nd ed. ii. p. 746 (1820), "Hungary;" Verner, Atlas, pl.

Sterna grisea, Horsf. Trans. Linn. Soc. xiii. p. 199, "Java" (1822).

—— *hybrida*, Pallas, Zoog. Rosso-Asiatica, ii. p. 338 (1831), "Volga;" Schlegel, Mus. Pays-Bas, *Sternæ*, p. 32.

Viralva indica, Stephens, Shaw, Gen. Zool. *Aves*, xiii. p. 169, "India" (1825), ex Lath. Gen. Hist. x. p. 103. no. 5.

Sterna delamotta, Vieill. Ency. Méth. Orn. Add. i. p. 350, "Europe" (1823).

—— *similis*, J. E. Gray, Illust. Ind. Zool. i. pl. 70. f. 2, ex India (1832).

Hydrochelidon fluviatilis, Gould, P. Z. S. 1842, p. 140, "interior of New South Wales."

—— *delalandii*, Bp. Compt. Rend. xlii. p. 773, "Cap. B. Spei" (1856).

Hab. Lake of Gorontalo, 8th of October, female passing into winter plumage (*Forsten*), Pontianac, in Borneo (*Diard*); abundant in India (*Jerdon*); Ceylon (*mus. nostr.*); S.W. Formosa (*Swinhoe*); interior of Australia (*Gould*); Cape York (*mus. nostr.*); Java (*Horsfield*); South and South-eastern Europe; Northern and Western Africa.

Tr. Z. S. viii. p. 104.

Onychoprion, Wagler.

186. Onychoprion melanauchen (Temm.), Pl. Col. 427, "Celebes" (April 25th, 1827); Schlegel, Mus. Pays-Bas, *Sternæ*, p. 28; Finsch & Hartl. Centralpolyn. p. 224; S. Müller, Verhandel. Land- en Volkenk. p. 125.

Sterna sumatrana, Raffles, Trans. Linn. Soc. xiii. p. 329, "Sumatra" (1822).

Hab. Celebes (*Reinwardt*); Ternate, Morty, Raou (*Bernstein*); west coast of New Guinea (*S. Müller*); common in the straits and bays of the Lobo district (*S. Müller*); Bay of Bengal (*Jerdon*); Nicobars (*Blyth*); Andamans (*Walden*)*; New Caledonia (*Verreaux*); Loyalty Islands (*G. R. Gray*); Viti-Levu, Ovalu, Stewart Islands (*Finsch & Hartlaub*); Cape York (*Macgillivray*); Sumatra (*Raffles*).

* [*Antea*, p. 32.—Ed.]

An Andaman and a New-Guinea example in my collection are identical.

There can be little doubt that this is the *S. sumatrana*, Raffles—a title most inappropriate, but which has priority.

187. Onychoprion anæsthetus (Scopoli), Del. Fl. Faun. Insub. ii. p. 92. no. 72 (1786), ex Sonnerat, Voy. Nouv. Guin. pl. 84.

Sterna panayensis, Gm. Syst. Nat. ed. 13, i. p. 607 (1788), e Sonnerat, *l. c.*

—— *panaya*, Gm.; Finsch & Hartl. Orn. Centralpolyn. p. 228; Vögel Ost-Afr. p. 833.

Hab. Salayer in Celebes (*Wallace*).

An example of this species, in young plumage, was obtained by Mr. Wallace at Salayer.

For complete synonymy and distribution *conf.* O. Finsch & Hartl. (*l. c.*).

Pelecanopus, Wagler.

188. Pelecanopus medius (Horsf.), Trans. Linn. Soc. p. 199, "Java" (1822).

Sterna affinis (Cretzsch.), Rüpp. Reise, p. 23, pl. 14, "coasts of the Red Sea" (1826); Schlegel, Mus. Pays-Bas, *Sternæ*, p. 6.

Sterna bengalensis, Cuv. Mus. Paris; Less. Tr. p. 621. no. 9. "côtes de l'Inde" (1831); Pucheran, Rev. et. Mag. Zool. 1850, p. 512; *conf.* Jerd. Birds Ind. iii. p. 843; Blyth, Ibis, 1865, p. 39; *op. cit.* (1867) p. 177.

Thalasseus torresi, Gould, P. Z. S. 1842, p. 140, "Port Essington."

Hab. Macassar, March (*S. Müller*); North Celebes (*Forsten*).

If Mr. Blyth's identifications of the North-African and South-Asiatic species be correct, the range of this Tern extends from Sicily to Madagascar, the coasts of India, of Northern Australia, and the islands of the Malay archipelago, at least as far as Celebes. It must be remembered, however, that Dr. Pucheran (*l. c.*) has stated that the Abyssinian and Bengal species differs "par plus de noir dans les rémiges et par son bec moins courbé, et par cela même plus droit." (*Conf.* Finsch & Hartl. Vögel Ost-Afrika's, p. 830.)

189. Pelecanopus cristatus (Stephens), Shaw, Gen. Zool. contin. *Aves*, xiii. p. 146, "China, many of the south-eastern islands of Asia" (1825). Tr. Z. S. viii. p. 105.

Sterna pelecanoides, King, Surv. Intertrop. Austr. ii. App. *Aves*, p. 422 (1827); Schlegel, Mus. Pays-Bas, *Sternæ*, p. 9.

Sterna velox, Rüpp.; S. Müller, Verhandel. Land- en Volkenk. p. 125.

—— *bergii*, Lichtenst.; Finsch & Hartl. Centralpolyn. p. 216, part.

Hab. Celebes, female, winter plumage (*Forsten*); Batchian, Gilolo, Morty, Oby (*Bernstein*); Ceram (*Forsten*); Timor, west coast of New Guinea (*S. Müller*); Flores (*Semmelink*); coast of W. Australia, Port Essington, Torres Staits (*Gould*); Mysol (*Wallace*); Java (*S. Müller*); mouth of the Hooghly, Madras, Malabar coast (*Jerdon*); Southern China, Formosa (*Swinhoe*).

A race of this species, probably belonging to the Asiatic form, inhabits many of the islands still more to the eastward. Messrs. Finsch and Hartlaub (*l. c.*) have united the large Sea-Terns of Eastern Africa (*S. velox*, Rüpp.) and of South Australia and Van Dieman's Land (*Thalasseus poliocercus*, Gould) with the Asiatic and North-Australian species, under the title of *S. bergii*, Lichtenstein, bestowed on a Cape-of-Good-Hope individual. Professor Schlegel, in his masterly catalogue (*l. c.*), keeps these representative forms separate, but with much reluctance. With the exception of *T. poliocercus,* the facts known favour the opinion that the species are severally permanent residents in the localities they frequent. Dr. S. Müller, who identified the New-Guinea bird with the Red-Sea *S. velox*, Rüpp., states (*l. c.*) that it is known to the inhabitants of the straits and bays of the Lobo district by the name of *Ressa.* At a subsequent date he appears to have regarded it as a distinct species; for Professor Schlegel cites *Sterna ressa*, S. Müller, as a synonym.

PODICIPIDÆ.

Podiceps, Latham.

190. Podiceps minor (Gm.), S. N. ed. 13, i. p. 591 (1788); Schlegel, Mus. Pays-Bas, *Urinatores*, p. 45.

Hab. Panybie (*Von Rosenberg*).

According to Professor Schlegel the Little Grebe of Java and Celebes is identical with that of Europe; and provisionally I refer the Celebean bird to the European species. But judging from the few South-Asiatic examples I have been able to compare with European individuals, I am not prepared to admit their identification as absolute. For instance, the Javan Little Grebe has an exceedingly stout bill which measures seven eighths of an inch in length, the wing being four inches and a quarter. The cheeks, chin, and throat are black; and a dark ferruginous line starts from behind each eye, and extends down each side of throat. Thus the Javan bird closely resembles the Australian *P. gularis*, Gould—a species, however, which Professor Schlegel does not admit.

Tr. Z. S. viii. p. 106.

PELECANIDÆ.

Dysporus, Illiger.

191. Dysporus sula (Linn.), Syst. Nat. ed. 12, i. p. 218, "Pelago indico" (1766).

Sula fiber, G. R. Gray; Schlegel, Mus. Pays-Bas, *Pelecani*, p. 41.

Hab. Celebes (*Mus. Lugd.*). On the general distribution of this species, *conf.* Finsch & Hartl. Faun. Centralpolyn. p. 261.

Phalacrocorax, Brisson.

192. Phalocrocorax melanoleucus (Vieill.), Nouv. Dict. d'Hist. Nat. vol. viii. p. 88, New Holland (1817); Gould, Birds Austr. vii. pl. 70; Schlegel, Mus. Pays-Bas, *Pelecani*, p. 15.

Hab. Celebes, nuptial plumage (*mus. nostr.*); Gorontalo, imperfect plumage (*Forsten*); Gilolo, Timor (*Mus. Lugd.*); Tasmania, every part of Australia (*Gould*); Salwati (*mus. nostr.*).

Plotus, Linnaeus.

193. Plotus melanogaster (Forster), Zool. Ind. p. 22, pl. xii., "Java, Ceylon" (1781).

Hab. Menado (*mus. nostr.*); all India, Ceylon, Burma (*Jerdon*); Java (*Mus. Lugd.*); Australia (*Schlegel*).

A single example of a *Plotus* in adult male plumage is in my possession collected near Menado. It does not appear to differ from Indian examples. *P. novæ-hollandiæ*, Gould, P. Z. S. 1847, p. 34, is not admitted as distinct from *P. melanogaster* by Professor Schlegel. Mr. Gould relies on its shorter scapularies and larger size.

List of species stated by various authors to occur in Celebes for which there is not sufficient authority :—

Urospiza torquata (Cuv.), Hand-list Birds Brit. Mus. no. 327.
Scops mantis, J. Müller, op. cit. no. 477.
Halcyon diops, Temm., op. cit. no. 1107.
Halcyon funebris, Forsten, op. cit. no. 1126.
Philemon moluccensis[*] (Gm.), op. cit. no. 2074.
Philemon inornatus, G. R. Gray, op. cit. no. 2077.
Philemon ? collaris, Reichenbach, op. cit. no. 2083. The genus *Philemon* is unknown in Celebes.
Climacteris leucophæa (Lath.), op. cit. no. 2521. The genus *Climacteris* is unknown in Celebes.
Dicrurus bimaënsis, Temm. op. cit. no. 4212.
Dicrurus atrocæruleus, G. R. Gray, op. cit. no. 4220.
Drymophila alecto, Temm. op. cit. no 4794. The genus *Drymophila* is unknown in Celebes. Tr. Z. S. viii. p. 107.
Lalage aurea, Temm. op. cit. no. 5114.
Calornis metallica, Temm. op. cit. no. 6376.
Munia pallida, Wallace, op. cit. no. 6756.
Eos cochinsinensis (Lath.), op. cit. no. 8202. The genus *Eos* is unknown in Celebes.
Psittacus cyanicollis, S. Müller and Schl. op. cit. no. 8275.
Ptilinopus flavicollis, G. R. Gray, op. cit. no. 9125.
Ptilinopus xanthogaster (Wagler), op. cit. no. 9136.
Ptilinopus hyogaster (Reinw.), op. cit. no. 9144.
Macropygia leptogrammica (Temm.), op. cit. no. 9305.
Reinwardtœna reinwardti (Temm.), op. cit. no. 9310. The genus *Reinwardtœna* is unknown in Celebes.

Most of the erroneous habitats enumerated in the above list are transcribed from the older authors. In nearly every instance they have been corrected by more recent writers, especially by S. Müller, Schlegel, Wallace, and O. Finsch.

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[*] This species is a *Mimeta* (*conf.* Wallace, P. Z. S. 1863, p. 26).

DESCRIPTION OF THE PLATES (*in orig.*).

PLATE III.

Outline Map of Celebes and the adjoining islands, p. 23.*

PLATE IV.

Trichoglossus meyeri, p. 32. From a specimen in Lord Walden's collection.

PLATE V.

Buceros exaratus, 1 ♂, 2 ♀, p. 47. From specimens in Lord Walden's collection.

PLATE VI.

Fig. 1. *Artamus monachus*, p. 67. From a specimen in Lord Walden's collection.

Fig. 2. *Geocichla erythronota*, p. 61. From the typical specimen in Mr. A. R. Wallace's collection.

PLATE VII.

Fig. 1. *Myialestes helianthea*, p. 66.
Fig. 2. *Hypothymis puella*, p. 66. } From specimens in Mr. A. R. Wallace's collection.
Fig. 3. *Cyornis rufigula*, p. 66.

Tr. Z. S. viii. p. 108.

PLATE VIII.

Fig. 1. *Volvocivora morio*, p. 69.
Fig. 2. *Lalage leucopygialis*, p. 69. } From specimens in Lord Walden's collection.

PLATE IX.

Fig. 1. *Munia brunneiceps*, p. 73.
Fig. 2. *Zosterops intermedia*, p. 72. } From specimens in Mr. A. R. Wallace's collection.
Fig. 3. *Zosterops atrifrons*, p. 72.

PLATE X.

Fig. 1. *Acridotheres cinereus*, p. 77. From a specimen in Lord Walden's collection.

Fig. 2. *Ægialites peronii*, p. 90. From a specimen in Mr. A. R. Wallace's collection.

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* [The numbers of the Plates and pages refer to the original.—Ed.]

Appendix to a List of Birds known to inhabit the Island of Celebes. By ARTHUR, Viscount WALDEN, F.R.S., President of the Society. [From the 'Transactions of the Zoological Society,' vol. viii. part ii. May 1872, Plates XI. to XIII. *in orig.*]

Tr. Z. S. viii. p. 109.

I. *Additional Observations on the Birds included in the previous List.*

WHILE the List of Celebean Birds contained in the preceding pages was passing through the press the island of Celebes was being visited and its zoology investigated by a most indefatigable collector and naturalist, Dr. Bernhard Meyer. With the greatest liberality Dr. Meyer has permitted me to examine all the birds collected by him in Celebes; and I avail myself of this opportunity to thank him for his courtesy. The additional materials thus placed at my disposal have enabled me to add to the list several species which had not previously been known to inhabit Celebes, as well as a few more which were altogether new to science. The considerable number of examples, representing the rarer species, collected by Dr. Meyer, has also rendered it possible and desirable to add some supplementary observations. The greater part of the collection was made in North Celebes, and consequently on old ground; yet Dr. Meyer has added twelve species new to the island, and at least four of which were previously undescribed. In the Togian islands a small collection was likewise made, showing that these islands, as we might have naturally supposed, possess a generally Celebean ornis; yet, among the small number of species thus obtained, two * were new to science, and have not as yet been discovered on the mainland of Celebes.

TERASPIZA RHODOGASTRA, *anteà*, p. 137. (Plate XI. *in orig.*)

Three stages of immature plumage, hitherto undescribed, are represented by three individuals obtained in North Celebes.

One, a male (Pl. XI. *in orig.*), has the head dark brown, mixed with rufous. The back, wings, and tail are bright rufous. The nuchal and dorsal feathers are centred with dark brown. The wing-coverts have each a black subterminal drop. The secondary quills are crossed by five distinct black bands. The basal halves of the primaries are banded with brown and pale rufous alternating; the terminal halves are light brown, obscurely banded with dark brown, rufous replacing the light brown on the outer webs. On the under surface of the quills the dark brown bands are better defined and more conspicuous. The five middle pairs of rectrices have four broad black bands, besides an obscure brown band at the root of the feathers. The outer pair have seven bands. The plumage of the under surface of the body is fulvous, each feather with a bold brown longitudinal central stripe. The under tail- and shoulder-coverts are unspotted fulvous. The middle toe is very long; and the tail is conspicuously forked. Tr. Z. S. viii. p. 110.

The second example is of a young female, much resembling the male above described, but having bold brown drops on the under shoulder-coverts and axillaries, and the general colouring of the upper surface not quite so bright a chestnut. In it also the tail is not forked, and the outer pair of rectrices are shorter than the middle.

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* *Loriculus quadricolor*, Walden, Ann. & Mag. N. Hist. ser. 4, vol. ix. p. 398; and *Criniger aureus*, Walden, *l. c.* p. 400. [*Anteà*, pp. 125–126.—ED.]

The third example is of a young female passing from the chestnut plumage of no. 2 into that of the adult. The nuchal feathers are ashy; and a few similar plumes are interspersed on the throat and upper part of the breast. The breast-feathers and a few on the flanks are pure vinous red. A few of the upper tail-coverts are dark ashy; and one of the long wing-coverts has come in ash-coloured, and with two pure white spots on the inner web. The chestnut colouring of the remainder of the plumage is very dingy and faded. The tail is not forked.

Dimensions.

Wing.	Rectrices.		Tarsus.	Toes.				
	Middle.	Outer.		Outer.	Middle.	Inner.	Hallux.	
inches.	inches.	inches.	inches.	inch.	inch.	inch.	inch.	
7·50	6·75	6·63	2·25	1·13	1·62	·75	·75	♀. Changing into adult plumage.
7·50	6·50	6·12	2·13	1·12	1·50	·75	·75	♀. Immature.
6	5·12	5·50	1·87	·81	1·13	·50	·50	♂. Immature.

The toes are measured without the nails. The nails of the inner toe and hallux are very large, strong, and equal. Those of the middle and outer toes are slender and short.

Tachyspiza soloënsis (Horsf.), *antea*, p. 138.

This species also inhabits China, extending at least as far north as Pekin (Swinhoe, P. Z. S. 1871, p. 342).

Limnaëtus lanceolatus, Bp., *antea*, p. 138.

Four examples from North Celebes have reached me—two (male and female) fully adult, and two (male and female) in the immature plumage already described (*l. s. c.*). The adult pair do not differ; and the example of the immature female only differs from that of the male by having the two pairs of middle rectrices more frequently banded and in a different manner. In the adult birds of both sexes the middle rectrices have a broad, terminal, dark brown band; then, above, a broader band of pale greyish brown, and then three narrow dark brown bands separated Tr. Z. S. viii. p. 111. by broad pale bands. This is also the character of the banding on the middle rectrices of the immature male. But in the immature female there is no terminal dark-brown band, and the middle rectrices are almost evenly divided by seven pale and seven dark-brown bands. Yet in all other respects the immature pair are identical in plumage.

Pernis celebensis.

Pernis ptilorhyncha (Temm.), *antea*, p. 140.

An examination of several examples of the Celebean Honey-Buzzard has convinced me that it is distinct from the Indian and Javan species. In this view I am only concurring with both Messrs. Gurney and Wallace, and therefore propose the above title for it. The remarkable resemblance of this species to *Limnaëtus lanceolatus*, in adult plumage, has been commented on by Mr. Wallace and Professsor Schlegel.

Upper surface brown. Chin, throat, and cheeks white, each feather broadly centred with dark brown. Breast pale rufous, some of the feathers with brown central stripes. Abdominal and ventral region, flanks, under wing- and tail-coverts, and the thigh-coverts white, with two, three, or four broad transverse bands. Tail crossed by three broad dark-brown bands, one being terminal; between the terminal band and the next a broad, light greyish-brown band of irregular shading and marking; between the second dark-brown band and the third a paler brown band.

YUNGIPICUS TEMMINCKII (Malherbe), *anteà*, p. 145.

Dr. Meyer has sent a male as well as several females of this rare species. The male, hitherto unknown, is peculiar in having the sides of the neck blood-red instead of a narrow stripe behind the eyes. In other respects it exactly resembles the female. Notwithstanding Bonaparte's remark (Consp. i. p. 137, no. 20), this species in no way resembles *Y. kisuki*. It is an isolated form, readily distinguished by its olive-brown plumage, spotted on the wings with yellowish-white dots, by its fulvous upper tail-coverts and rump, and by all its rectrices being barred rufous and brown.

MEROPOGON FORSTENI (Temm.), *anteà*, p. 146.

This species has the first primary half the length of the second, which is a little shorter than the third. The third and fourth are longest, and equal. The fifth is somewhat shorter than the third and fourth, but longer than the second. In the structure of the wing, therefore, it differs from both *Merops* and *Melittophagus**, but agrees with *Nyctiornis*. The grooved culmen of *Nyctiornis* is not present; but a shallow channel extends from the base of the maxilla, on both sides of the culmen, for two thirds of its length. This character is not possessed by either *Nyctiornis*, *Merops*, or *Melittophagus*. The rectrices are truncated, as in *Nyctiornis*; but the middle pair are elongated, as in *Merops*, and closely resemble in form and proportion those of *M. philippensis*. The feet are those of the family. The elongated pectoral plumes resemble in character the same feathers in *Nyctiornis*. Altogether *M. forsteni* may be regarded as a link uniting *Nyctiornis* to *Merops*, but most nearly allied to *Nyctiornis*.

Tr. Z. S. viii. p. 112.

CEYCOPSIS FALLAX (Schlegel), *anteà*, p. 148.

Several examples were obtained in North Celebes by Dr. Meyer.

Tanysiptera riedelii was not obtained in Celebes (*conf.* P. Z. S. 1872, p. 1); and as yet there is no evidence that the genus occurs in the island.

LYNCORNIS MACROPTERUS, Bp., *anteà*, p. 150.

This species, *L. macrotis*, Vigors, and *L. temmincki*, Gould, are representative forms, closely resembling each other in plumage, but differing in size, the Celebean species being a little smaller than the Philippine. *L. cervinicceps*, Gould, the giant of the genus, differs considerably in colouring and markings.

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* Prince Bonaparte says (Consp. i. p. 164), "*alæ Melittophagi*;" but in *Melittophagus*, *M. minutus* being the type, the third quill is the longest. The African species which most resembles *M. forsteni* in the graduation of the quills and the form of the rectrices, the middle pair excepted, is *M. bullockoides*, Smith.

EUDYNAMIS MELANORHYNCHA, Müll., *anteà*, p. 156.

This species also passes through a rufous phase of plumage. The entire upper surface, in one individual, is deep bay, each feather being traversed by broad and perfectly regular black bands. The chin, throat, and cheeks darker bay, with longitudinal black central streaks. A broad white stripe from the rictus to the neck. Lower plumage fulvous, with narrow, crooked, transverse markings. Edge of shoulder white.

CENTROCOCCYX AFFINIS (Horsf.), *anteà*, p. 158.

CENTROCOCCYX JAVANENSIS (Dumont), *anteà*, p. 162.

I have had an opportunity of examining a large Celebean series of both these species, and find that they do not differ from Javan individuals.

BRODERIPUS CELEBENSIS.

Broderipus coronatus (Swains.), *anteà*, p. 162.

Of fourteen examples of the Celebean *Broderipus* collected by Dr. Meyer, seven have the black coronal ring complete, and seven incomplete. One of the latter exhibits faint traces of yellow at the tips of the lesser wing-coverts. The remaining thirteen specimens are without any indication of a wing-spot. None have the middle pair of rectrices completely black, although in one example they are nearly so; and yet it shows no wing-spot. The series illustrates the progress of the coronal ring before uniting. In one individual the black loral mark of *Oriolus* Tr. Z. S. viii. p. 113. *galbula* extends behind the eye somewhat further than what is found in *O. kundoo*; in others it has extended still further, until it is found encircling the head. Unfortunately Dr. Meyer has not noted the localities of the several individuals, and we are left in doubt whether there are two species or one; but, from the graduations the coronal ring exhibits, it seems likely that there is but one species. This gradual development of the coronal ring has not been observed in any other species of *Broderipus*, and, taken together with the almost total absence of the wing-spot, separates the Celebean Oriole from all known species.

GEOCICHLA ERYTHRONOTA, Sclater, *anteà*, p. 163.

Several examples were collected in North Celebes.

TRICHOSTOMA CELEBENSE, Strickl., *anteà*, p. 163.

Obtained in North Celebes.

ARTAMUS MONACHUS, Temm., *anteà*, p. 168.

Celebean examples are identical with those obtained in the Sula Islands.

GRAUCALUS TEMMINCKII, S. Müller, *anteà*, p. 170. (Plate XII. *in orig.*)

A few examples of this rare species were obtained in North Celebes by Dr. Meyer.

Corvus enca (Horsf.), *anteà*, p. 175.

Two examples sent by Dr. Meyer from Celebes give me the opportunity of comparison with the Javan species. I am unable to detect any difference, except in the dimensions, the Javan bird being somewhat the largest. *C. validus*, Temm., as represented at Malacca is a very distinct species.

Dimensions.

	Wing.	Bill. from forehead.	Tail.
	inches.	inches.	inches.
C. enca, ex Java	11·75	2·50	6·50
,, ,, ...	11·50	2·50	6·37
,, ex Celebes	10·50	2·12	5·50
,, ,, ...	11·12	2·18	5·75

Calornis neglecta, Walden, *anteà*, p. 179.

Numerous examples of this species were obtained by Dr. Meyer in Celebes, thus fully establishing its Celebean *habitat*.

Osmotreron vernans (Linn.), *anteà*, p. 182.

On examination of a large series of the Celebean form from North Celebes I find that the grey cap is paler than in Malaccan examples. The greenish tinge on the throat is common to individuals from both localities. I can find no difference between the amount of lilac on the neck (*conf.* Wallace, Ibis, 1863, p. 320). Mr. Maingay obtained the male and female of *O. bicincta* at Malacca.

Tr. Z. S. viii. p. 114.

Chalcophaps stephani, Jacq. & Puch., *anteà*, p. 185.

A single example of this rare and well-marked species has been sent from North Celebes by Dr. Meyer. It is in full plumage, and in every respect agrees with the plate and description (*l. s. c.*). If, then, the New-Guinea species differs, the origin of the type must have been Celebes, and not New Guinea (west coast) as stated by M. Pucheran (*l. c.*).

Chalcophaps indica (Linn.), *anteà*, p. 186.

Examples from North Celebes in no way differ from Ceylon, Indian, Burmese, Malaccan, and Javan individuals. Judging from the number of specimens obtained by Dr. Meyer, this species cannot be so rare in Celebes as stated by Professor Schlegel (*l. s. c.*).

Nycticorax caledonicus (Gm.), *anteà*, p. 199.

It may be inferred that this species breeds in Celebes, an example in spotted immature plumage having been obtained in the northern part of the island by Dr. Meyer.

II. *List of Species to be added to the Celebean Avifauna.*

Genus Caprimulgus, Linn.

1. Caprimulgus affinis, Horsf. Trans. Linn. Soc. xiii. p. 142, "Java" (1820).

Caprimulgus europæus, L. ap. Raffles, op. cit. p. 315, in part, "Sumatra."

Hab. Java (*type*); Sumatra (*Raffles*); East Timor, Lombock (*Wallace*); Celebes (*Meyer*).

Dr. Meyer has sent from Celebes a single example of a *Caprimulgus* which appears to belong to the species cited above. I have been unable to compare it with a Javan individual; but it perfectly agrees with Lombock and East-Timor specimens. Four pairs of rectrices are missing; and it is otherwise in indifferent order; I therefore add a short description of the species, taken from a Lombock individual—Horsfield's account, the only one published, being very meagre.

Above, the general aspect of the plumage is iron-grey, somewhat mixed with brown, caused by the feathers being finely dotted or sprinkled with black and grey, here and there with fulvous. In some of the crown-feathers black prevails; but there are no regular stripes on the head. On the sides of the throat are two white spots. The lower breast-feathers are fulvous, with several well-defined brown transverse bars. The ventral region and the under tail-coverts are fulvous, without any markings. The major wing-coverts are distinctly banded with alternate rufous and brown. A large white spot on each of the first four primaries. The chin, throat, and upper breast are clothed with feathers finely marked with fulvous-grey points on a brown ground. Many of the upper breast-feathers with bold rufo-fulvous tips. The middle rectrices have the general colouring and marking of the upper plumage, and are traversed by eight or nine more or less distinct irregular black bands. The two outer pairs are pure white throughout their entire length. The wing in six examples averages 6·25 inches, and the tail 4·25.

Tr. Z. S. viii. p. 115.

This species, as has been well observed by Mr. Blyth (Cat. Calc. Mus. p. 84, note), is as diminutive as *C. monticola*, Frankl.

2. Caprimulgus, sp.?

A large dark-coloured *Caprimulgus* is among the novelties obtained in Celebes by Dr. Meyer. The example is unfortunately in such indifferent order that the inherent difficulties which attend the discrimination of many species of the family are very much increased. Above, this Celebean Goat-Sucker closely resembles Javan examples of *C. macrourus*, Horsf. Underneath, it is darker in colour, and the transverse barring of the abdominal plumage is less regular and well defined. The principal points in which it differs from a considerable series of *C. macrourus* are:—the great length of the rictal bristles, which measure a full inch; the greater length of the bill; the smallness of the terminal white spots on the two outer pairs of rectrices; and the peculiar markings on the under surface of all the rectrices except the middle pair. In true *C. macrourus* the white terminal spot on the outer pair of rectrices measures about two inches; in this individual it measures only seven eighths of an inch. In the Javan bird the under surface of the rectrices is more or less uniform brown, without markings; this Celebean bird has some eleven or twelve distinct narrow rufous bars crossing the rectrices. Its first primary has no white spot, while on each of the three next it is much smaller than in *C. macrourus*, which has a large white spot on all four primaries. The length of wing is equal to the average length observable in the Javan bird, seven and a quarter inches; nor do the dimensions of the tail (six inches) differ.

As there are two Bornean species, *C. arundinaceus*, Jacq. & Puch., and *C. binotatus*, Bp., which have yet to be satisfactorily identified, I refrain from conferring a distinct title on this Celebean Nightjar.

Cuculus, Linn.

3. Cuculus canorus, Linn. S. N. i. p. 168 (1766).

A single specimen obtained by Dr. Meyer in North Celebes is not to be distinguished from a British-killed example of the adult Common Cuckoo. The wing alone is shorter, 7·50 against 8·31; the tail is equal. Two other specimens, with the upper plumage changing to the adult stage, the transverse, pectoral, and abdominal bands rather broader, and with immaculate buff under tail-coverts, seem to belong to the same species; and a fourth, in bright chestnut and brown plumage, must be referred to it. Without the example in full plumage it would have been difficult to say whether the other three did not belong to *C. canoroides*, Müller. If *C. canoroides* is equal to *C. saturatus*, Hodgs.,=*C. himalayanus*, ap. Jerd., it is a very distinct form; but I have never met with an Archipelagic Cuckoo in the dark adult plumage of Himalayan *C. saturatus*. Timor and Amboyna examples of so-called *C. canoroides* only differ from those of *C. canorus* by having a shorter wing. But individuals of *C. canorus* from different parts of the Old World (that is, individuals identical in plumage) vary extremely in the length of wing, as the following table shows:—

Tr. Z. S. viii. p. 116.

England	8·31
Abyssinia	9·00
Menado	7·50
Deyra Doon	8·00
,, ,,	8·75
India	9·50
Philippines	9·25
Simla	8·50

These measurements are taken from examples in fully adult plumage, and almost identical in colouring and marking.

Hierococcyx, S. Müller.

4. Hierococcyx crassirostris, Walden, Ann. & Mag. Nat. Hist. ser. 4, vol. ix. p. 305*, "North Celebes" (1st April, 1872). (Plate XIII. *in orig.*)

This species, in mature plumage, most nearly resembles *C. micropterus*, Gould.

5. ?Cacomantis sepulcralis (Müller), Verhandel. p. 177, not., sp. 2, "Java, Sumatra."

For the present I refer three examples of a *Cacomantis* obtained by Dr. Meyer in North Celebes to the Javan species, rather than create a new title; for without a large series of individuals inhabiting all parts of the archipelago it is impossible to discriminate the species belonging to this perplexing group.

One of the three Celebean examples is in fully mature plumage, and has the chin, cheeks, and throat pale grey, the head iron-grey, the upper plumage deep bronze-green, the breast, abdominal region, flanks, under tail-, and shoulder-coverts deep rufous; the middle pair of rectrices are black, the outer one black-brown tipped with white, and with one or two small white shallow triangular marks on the edge of the inner webs; the quills are traversed by the usual white band. Wing 4·25 inches, tail 5·75.

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* [*Anteà*, p. 123.—Ed.]

These Celebean individuals differ from all examples of the Javan *C. sepulcralis* known to me in the much deeper bronze-green of the upper plumage, the much deeper rufous of the under, and in their shorter wings and tail.

Tr. Z. S. viii. p. 117. 6. Cisticola grayi, Walden, Ann. & Mag. Nat. Hist. ser. 4, vol. ix. p. 400*, "North Celebes" (1st May, 1872).

Corydalla, Vigors.

7. Corydalla gustavi (Swinh.), P. Z. S. 1863, p. 90, "China;" op. cit. 1871, p. 366.

Pipastes batchianensis, G. R. Gray, H.-list, i. p. 251. no. 3642, "Batchian" (1869).

Anthus arboreus, var., G. R. Gray, P. Z. S. 1860, p. 350, "Batchian."

Hab. Amoy, China (*Swinhoe*); Batchian (*Wallace*); North Celebes (*Meyer*).

A single individual from North Celebes agrees well with the Batchian example contained in the British Museum, and there identified by Mr. Swinhoe.

8. Cyornis banyumas (Horsf.), Trans. Linn. Soc. xiii. p. 146, "Java" (1820); Zool. Res. in Java, pl. —.

Muscicapa cantatrix, Temm. Pl. Col. 226, ♂, ♀ (1823).

? *Muscicapa rufigastra*, Raffles, Trans. Linn. Soc. xiii. p. 312, "Sumatra."

Hab. Java (*type*); Sumatra? (*Raffles*); Banjermassing (*mus. nostr.*); North Celebes (*Meyer*).

Undistinguishable from Javan examples.

Hyloterpe, Cabanis.

9. Hyloterpe sulfuriventer, Walden, Ann. & Mag. Nat. Hist. ser. 4, vol. ix. p. 399*, "North Celebes" (1st May, 1872).

Hab. North Celebes (*Meyer*).

Myzomela, Vigors & Horsfield.

10. Myzomela chloroptera, Walden, Ann. & Mag. Nat. Hist. ser. 4, vol. ix. p. 399*, "Celebes" (1st May, 1872).

The discovery of this species adds another Papuan genus to the Celebean fauna.

GLAREOLIDÆ.

Glareola, Brisson.

11. Glareola grallaria, Temm. Man. d'Ornith. vol. ii. p. 503, "Austral-Asie" (October 1820); Gould, B. of Austr. vol. vi. pl. 22.

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* [*Anteà*, pp. 125–127.—Ed.]

Hab. Moreton Bay (*Gould*); west coast of New Guinea (*Müller*); Obi-major (*Bernstein*); Flores (*Semmelink*); Borneo (*Schwaner*); Java (*Kuhl* and *V. Hasselt*); Celebes (*Meyer*).

Several examples in mature and immature plumage were obtained in Celebes by Dr. Meyer.

STERNULA, Boie. Tr. Z. S. viii. p. 118.

12. STERNULA MINUTA (Linn.), S. N. vol. i. p. 228 (1766).

Several examples from North Celebes have been sent by Dr. Meyer. They are all in full plumage. Tail pure white.

These twelve additional species thus raise the number of authentically recorded Celebean birds to two hundred and five.

DESCRIPTION OF THE PLATES (*in orig.*).

PLATE XI.

Teraspiza rhodogastra, p. 109. From a specimen in Lord Walden's collection.

PLATE XII.

Graucalus temminckii, p. 113. From a specimen in Lord Walden's collection.

PLATE XIII.

Hierococcyx crassirostris, p. 116. From specimens in Lord Walden's collection.

Letter on Cyornis tickelliæ, *Blyth, and* C. jerdoni, *G. R. Gray, from* Viscount WALDEN, P.Z.S., *to the* EDITOR *of* 'THE IBIS' (July 1872). Ibis, 1872, p. 330.

SIR,—Captain Hayes Lloyd, in an interesting letter (Ibis, 1872, p. 197) has stated his conviction to be that *Cyornis tickelliæ*, Blyth, is the female of *Cyornis jerdoni*, G. R. Gray (olim *C. banyumas*, Horsf., apud Jerd.). Captain Lloyd's observations were made in a part of India ornithologically little known; and it is therefore not impossible that the *Cyornis* he refers to is distinct from either of the species he has associated it with. But for my present purpose it is Ibis, 1872, p. 331. sufficient to assume that the *Cyornis* of Gujerat does belong to one or other of the above-named species.

There can be little doubt that the birds Captain Lloyd describes are male and female of one and the same species; for Dr. Jerdon's surmise that the female of *C. jerdoni* (=*C. banyumas*, ap. Jerd.) is olive, has not been sustained by subsequent investigation. On the contrary, the females of *C. jerdoni* and *C. tickelliæ* are blue, like the males, but of a much paler shade. The young birds also of both sexes change directly from their rust-spotted plumage to the full blue plumages of the adults. Now if this be so, before Captain Lloyd's conclusions can be adopted, the *Cyornis* male and female of Central India must be compared with the *Cyornis* male and female of Malabar and Ceylon. This comparison examples of both sexes from Candeish, Malabar, and Ceylon in my collection have enabled me to institute. My results are, that from all those localities the females are paler-coloured than the males; and this is also the case in *C. banyumas* (Horsf.) ex Java. The females of Candeish individuals (*C. tickelliæ*) are, above, almost ashy grey, tinged with blue. The lazuline hue of the forehead, supercilium, and shoulder is present, but less intense than in the male. The orange under-surface of the male degenerates into a dull buff in the female. The lores in the female are *white*, whereas in the male they are *black*. The cheeks and ear-coverts are palpably darker in the male than in the female.

In Malabar and Ceylon birds (*C. jerdoni*) the females are darker and bluer than the Candeish females. They closely resemble Candeish males, from which they can only be distinguished by their *white* lores. Malabar and Ceylon males are, above, very dark blue, below very bright orange, with the lores and chin *black*. It may be that an examination of a larger series than I command may not bear out these facts; but if it does so, it appears to me that we may fairly continue in the belief that *C. jerdoni* and *C. tickelliæ* designate two distinct species, the male of the last wearing the female livery of the first.

Yours &c.,
WALDEN.

Chislehurst, June 1, 1872.

A. M. N. H. ser. 4, vol. x. p. 61.

On a new Species of Timalia *from Eastern India.* By ARTHUR, Viscount WALDEN, P.Z.S., F.R.S.

[From the 'Annals and Magazine of Natural History,' ser. 4, vol. x., July 1872.]

TIMALIA JERDONI, n. sp.

Timalia pileata, Horsf. ap. Jerdon, B. Ind. ii. p. 24, nec Horsf.

A narrow frontal band extending over the eyes, the cheeks, chin, and throat white; forehead and crown deep chestnut; remainder of upper surface dark olive-grey; quills and rectrices above A. M. N. H. ser. 4, vol. x. p. 62. brown, tinged with olive; rectrices traversed by numerous narrow bands of a darker shade of brown; upper part of breast white, changing to cinereous lower down; each feather with a black shaft; remainder of lower surface fulvous mixed with cinereous olive; under tail-coverts cinereous olive.

	Longitudo				
	Rostr. a nar.	Alæ.	Caudæ.	Tarsi.	
T. jerdoni . . .	0·31	2·36	2·88	0·88.	"Khasia Hills."
T. pileata . . .	0·50	2·62	3·12	1·00.	"Java."

Described from specimens obtained in the Khasia Hills.

This bird has hitherto been considered identical with the Javan *T. pileata*, Horsf. A comparison I have recently been enabled to make with authentic Javan examples has convinced me of their specific distinctness. True *T. pileata* is a larger bird; in it the bill is much more powerful, its altitude being quite double that of examples from the Khasia Hills; the crown of the head is bright ferruginous, not dark chestnut; the colour of the upper plumage, wings, and rectrices is considerably paler; that of the lower is pale tawny; and the ashy colour of the black-shafted breast-plumes is less intense. My deeply lamented friend Dr. Jerdon fully concurred with me in the propriety of separating the two species.

In the 'Birds of India' (*l. c.*) this species is said to extend through the Malayan peninsula to Java; but I believe that it has never been found further south than Arracan. Neither it nor the Javan species has been shown to occur in the Malayan peninsula or in Sumatra. It seems to belong to that category of Javan forms (such as *Harpactes orescius*, *Crypsirhina varians*, *Bhringa remifer*, &c.) which, while absent from the intermediate regions of Sumatra and the Malay peninsula, reappear further to the north in Burma, some penetrating as far as Nepal.

On a Collection of Birds recently made by Mr. A. H. Everett *in Northern Borneo.* By ARTHUR, Viscount WALDEN, P.Z.S., F.R.S. [From 'The Ibis,' October 1872, Plate XII. *in orig.*]

Ibis, 1872, p. 360.

HAVING lately had an opportunity of examining a small collection of birds obtained in Northern Borneo by Mr. A. H. Everett, it has occurred to me that a list of the species it included might form an acceptable addition to our knowledge of the avifauna of that island. Hitherto the Bornean collections sent to London by Mr. Everett have been dispersed before being catalogued, and the valuable materials he had contributed to the formation of a complete list of North-Bornean birds were thus rendered unavailable. This is the more to be regretted, as most of his specimens have labels attached which give the origin and sex of each example, and other useful information. These notes, whenever they occur, are introduced within inverted commas. Ibis, 1872, p. 361.

Our knowledge of Bornean ornithology dates from comparatively recent times, and is not extensive. In 1855 Messrs. Motley and Dillwyn * published the first part of a work on Bornean zoology, which, unfortunately, was not continued. The ornithological portion of the subject is well treated. In 1863 Mr. Sclater † published some observations on the birds of South-eastern Borneo by Mr. Motley, to which he added some valuable original notes. This paper comprises a list of 134 species. These two publications, I believe, embrace all that has been written of a connected character on the Bornean avifauna. Besides, we have nothing but scattered notices of new species by various authors, from Temminck to Salvadori. Indeed it is curious that no

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* Contributions to the Natural History of Labuan, &c. Part 1. London, July 2, 1855.

† Proc. Zool. Soc. 1863, p. 206.

Bornean birds were described or enumerated by any of the older authors. Until the island was visited by the Dutch collectors in the time of Temminck, it is doubtful whether a single Bornean bird reached the hands of an ornithologist.

The objects of especial interest contained in Mr. Everett's last collection are *Argusianus grayi*, *Pityriasis gymnocephalus*, of which rare species a considerable number of individuals were obtained, and *Setornis criniger*, Lesson. Until we possess complete catalogues of the Malaccan, Sumatran, Javan, and Philippine birds, and all their allied forms have been compared, it will be premature to comment on their geographical distribution. For the present all that we are warranted in saying is that the Bornean ornis exhibits a near relationship to the Sumatran and Malaccan, less to the Javan, and still less to the Philippine; while its few ornithic affinities with the neighbouring island of Celebes it has in common with the more distant Sunda islands.

PALÆORNIS LONGICAUDATUS (Bodd.), Tabl. Pl. Enl. p. 53 (1783), ex D'Aubenton; O. Finsch, Papag. ii. p. 77.

Perruche de Malac, D'Aubent. Pl. Enl. 887.

Ibis, 1872, p. 362. *Palæornis malaccensis*, Vigors; Motley & Dillwyn, Labuan, p. 26.

Palæornis affinis, Gould, B. of Asia, pt. x. pl. —, av. juv. (1858), fide Blyth, Ibis, 1865, p. 42.

Sarawak (*Everett*); Banjermassing (*Motley*); Sumatra, Malacca (*mus. nostr.*); Bangka (*Sal. Müller*); Nias Isl. (*v. Rosenberg*).

In a Sumatran example the middle rectrices measure $10\frac{1}{2}$ inches.

HIERAX CÆRULESCENS (Linn.), S. N. i. p. 125, no. 9 (1766), ex Edwards.

Little Black and Orange-coloured Indian Hawk, Edwards, Illustr. pl. 108, "Bengal."

Hierax malayensis, Strickl. Ann. Nat. Hist. xiii. p. 33, "Malay countries" (1844).

"Marup, ♀."

Does not differ from Sumatran and Malaccan examples. No rufous about the head. The wing measures $3\frac{3}{4}$ inches. The writing on the label is indistinct, but seems to read "iris light brown." The Javan bird has yet to be compared.

SPILORNIS BACHA (Daudin), Traité, ii. p. 43 (1800), ex Levaillant.

Le Bacha, Levaillant, Ois. d'Afr. i. p. 68, pl. 15, "South Africa"!

Spilornis cheela (Daud.), apud Wallace, Ibis, 1868, p. 15, "Borneo, small race of the Indian species," nec Daudin.

Falco cheela, Daudin, Traité, ii. p. 44 (1800), to which species Mr. Wallace (*l. c.*) referred the small Bornean *Spilornis*, was founded on Latham's *Cheela Falcon*, Syn. Suppl. p. 33, = *Falco cheela*, Lath. Ind. Orn. i. p. 14, no. 14 (1790), described as from India, where it is known "by the name of *Cheela*; size large and of a very stout make; length 2 feet or more" (Lath. *l. c.*).

Falco bacha, Daudin (*l. c.*), is the title Daudin gave to *Le Bacha*, Levaillant (*l. c.*). Levaillant's type is generally supposed to have come from Java; and his plate agrees well with the Javan bird. *Falco bido*, Horsf. Tr. Linn. Soc. xiii. p. 137, is a synonym (*conf.* Sundev. Kritisk, Ois. d'Afr. p. 25). This Bornean species appears to be smaller than either of these two

Ibis, 1872, p. 363.

Eagles, being about equal in size to *S. rufipectus*, Gould. The adult plumes that have appeared on the thighs, under the shoulders, and on the abdomen and flanks are much paler than in my Malaccan, Javan, and Cingalese examples of *S. bacha.* I am inclined to the opinion that it belongs to a distinct and undescribed species; yet, until a fully adult individual can be examined, I propose to regard these Bornean birds as representing *S. bacha* in immature plumage. If it eventually proves to be distinct, I venture to suggest for it the title of *Spilornis pallidus.*

Two examples are sent by Mr. Everett, one without a label. One marked "Jambusan, September, ♀," is of a young bird in transition plumage. The feathers of the interscapular region are pale rusty fulvous, with a broad subterminal dark brown band, which is fringed with albescent fulvous. On the lower back and uropygium the feathers are pale brown, terminated with deeper brown and fringed with albescent-fulvous. The feathers of the head including the crest, which is considerably developed, are white at their insertion, then tawny, with a dark brown subterminal drop with a terminal fringe, much decomposed, of albescent-fulvous. Below each eye a bold pure white mark; a narrow black line over the eye, joining the black ear-coverts and cheeks; chin and throat immaculate tawny. The remainder of the under surface tawny. Some of the pectoral plumes with pale brown central triangular markings; lower down some with faint central streaks of pale rusty brown. Abdominal and ventral plumes, the thighs and tail-coverts, and the flanks with numerous cross bars of dilute ferruginous. Axillaries barred with bright pale ferruginous. The primaries are brown above, with black outer webs, deepening towards the tips, which are white, and one or two slanting black bars crossing both webs. Underneath the quills are white, the black bands and ends showing through as pure or mottled pale brown. The rectrices at their base are brown; then a band of very dark brown an inch and a half deep, followed by a still broader pale band of albescent brown; then a narrow subterminal very dark brown band, edged by a very narrow border of light brown, and finally fringed with albescent. Ibis, 1872, p. 364.

The second example, which (from its smaller dimensions) is probably of a male, has put on many of its adult feathers. The chin and throat white, with a few feathers brown-centred. The remainder of the under surface of the peculiar pale earthy brown colour found in *S. cheela.* The breast unspotted, but the abdominal, ventral, and flank feathers, the axillaries, under wing-coverts, thighs, and under tail-coverts more or less spotted with pure white; the axillaries have their ground-colour more ruddy. The under surface of the quills as in the Jambusan individual; above the black portion of the quills as in that example, but the paler brown replaced by pale earthy brown mottled with albescent. The banding of the rectrices is different and very irregular. The subtermimal dark brown band both individuals possess in common; the pale band above is narrow, irregular, and mottled. Above this, again, the dark brown band occupies less space, and is broken into by mottled pale brown and albescent, above which, again, are indications of a third dark brown band. The plumes of the head and crest are mostly pure white at the base, terminated with a broad jet-black band. The white mark under the eye persists; but the cheeks and ear-coverts are cinereous, with a jet-black shaft to each feather. The back and wing-coverts are of a much paler brown.

	Longitudo			
	Alæ.	Caudæ.	Tarsi.	
Spilornis bacha . . .	15·25	10	3·87	Adult, East Java.
,, ,, . . .	14·50	10	3·50	,, Java.
,, ,, . . .	15·50	10	3·50	Nearly adult, Ceylon.
,, ,, . . .	15·50	10	3·50	,, ,,
,, ,, . . .	14·50	9·80	3·50	,, ,,
,, ,, . . .	14·50	9·80	3·50	,, ,,
,, ,, . . .	14·75	11	3·25	Adult, Malacca *.
,, ,, . . .	13·25	10	3·25	♀ juv., Jambusan.
,, ,, . . .	12·62	8·75	3·12	♂ (?) juv., Sarawak (?).

Ibis, 1872, p. 365.

PHODILUS BADIUS (Horsf.), Tr. Linn. Soc. xiii. p. 139, "Java" (1820); Zool. Res. Java, pl. —; Temm. Pl. Col. 318, "Java"; Schlegel, Mus. Pays-Bas, *Striges*, p. 23.

No locality given; probably from neighbourhood of Sarawak. Example sent undistinguishable from Malaccan and Burmese (Tonghoo) individuals. Sumatran individuals are considered to belong to the same species (Schlegel, *l. c.*).

NINOX BORNEENSIS (Bp.), Mus. Lugd. Consp. i. p. 41. no. 23, "Malaiasia, Borneo" (1850); Schlegel, Mus. Pays-Bas, *Striges*, p. 25.

"Marup."

Although also given by Bonaparte from Malaiasia, the only examples in the Leyden Museum were from Borneo. Of a paler and ruddier brown than Malaccan individuals I have examined. Underneath, the broader centres are almost bright rufous, and occupy more of each feather, less white being thus apparent than in *N. scutellatus* (Raffl.)=*N. malayensis*, Eyton, or in any other of the allied forms. Dimensions less than those of the Ceylon, South-Indian, Assam, Burmese, or Malaccan species. Four caudal bands are present.

	Longitudo		
	Alæ.	Caudæ.	
Ninox hirsutus . . .	7·75	5	Ceylon, five caudal bands.
,, ,, . . .	7·75	4·75	,, ,, ,,
,, ,, . . .	7·75	4·75	Coorg, ,, ,,
,, ,, . . .	8	5	,, ,, ,,
,, ,, . . .	8·50	5·50	Assam, ,, ,,
,, ,, . . .	8·50	5·50	Tonghoo, ,, ,,
,, *scutellatus* . .	7·50	4·75	Malacca, four caudal bands.
,, ,, . . .	7·50	4·75	,, ,, ,,
,, *borneensis* . . .	7·12	4·50	Marup, ,, ,,

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* The examples noted as adult have the crest pure white and black. The others have the black portion of the crest-plumes edged with ferruginous brown. The caudal banding of one Ceylon individual agrees with the banding in the Javan and Malaccan. In the three other Ceylon individuals *three* dark brown bands are more or less indicated.

MEIGLYPTES TRISTIS (Horsf.), Tr. Linn. Soc. xiii. p. 177, "Java" (1820).

Picus poicilophos, Temm. Pl. Col. 197. fig. 1, ♂, "Java" (1823).

"Marup, July, ♂, iris crimson; Simunjon, ♂, iris crimson; Marup, ♀."

The example from Simunjon is in the plumage of *M. tristis* verus, ap. Malh. (Monogr. ii. p. 10); and a Banjermassing specimen displays the same characters. The first, although marked a male, wants the usual red cheek-stripes; the South-Bornean bird displays only traces of red feathers on the cheeks. Malaccan examples frequently exhibit one or other of the peculiarities insisted upon by Malherbe as being characteristic of *M. tristis* (Horsf.), notably the dark breast and under surface generally. All the individuals with the under surface coloured fulvous, with brown cross bands, Malherbe has separated under the title of *P. grammithorax* (*tom. cit.* p. 13). That author, however, admits that it is impossible to indicate with precision the separate localities they inhabit. The Marup specimens are in the plumage of *P. grammithorax*, and they do not differ from some Malaccan and Sumatran examples. The probabilities are that the dark-breasted individuals, *M. tristis* (Horsf.), are birds not arrived at maturity, and that when in adult plumage they assume the garb which induced Malherbe to regard them as belonging to a distinct species, *P. grammithorax* *. Ibis, 1872, p. 366.

CENTROCOCCYX EURYCERCUS (A. Hay), J. A. S. B. xiv. p. 551, "Malacca" (1845).

Cuculus bubutus, Horsf. apud Raffles, Tr. Linn. Soc. xiii. p. 286, "Sumatra."

Centropus borneensis, Bp. Consp. Vol. Zygod. p. 5 (1854).

"Marup, ♀, iris crimson."

Prince Bonaparte (*l. c.*) separated the large Bornean Crow Pheasant; but this example agrees so closely with Malaccan and Sumatran individuals that I cannot recognize its specific distinction. *C. eurycercus* can always be distinguished from the continental *C. rufipennis*, Illiger, by its larger size, by the tail of the full-plumaged bird (?) being blue and not green, and by the *interscapulary region of the back being coloured like the wings.* Even in young birds with striated plumage, this part of the back will be found to have some rufous feathers. I have not been able to determine with any certainty whether the rectrices pass from green to blue, or blue to green; but in one stage they are certainly blue, which never occurs in *C. rufipennis.* Ibis, 1872, p. 367.

If, on comparison, the Javan *Centrococcyx* (*C. bubutus*, Horsf. Tr. Linn. Soc. xiii. p. 180, sp. 2) prove to belong to this species, Horsfield's title will have precedence. Both Moore and Cabanis unite it with the continental form; but, judging from Horsfield's plate and description (Zool. Res., *C. philippensis*, var. *javanica*), it is the Malayan species or else nearly allied to it.

CENTROCOCCYX JAVANENSIS (Dumont de Ste.-Croix), Dict. Sc. Nat. xi. p. 144, "Java" (1818); Walden, Tr. Zool. Soc. viii. p. 58†.

"Jambusan, ♀, iris brown."

In almost perfect plumage. Identical with Javan, Malaccan, and Celebean examples.

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* This view is supported by the fact, above mentioned, that the Simunjon male wants the usual red cheek-stripes. Mr. Everett's notes of the sexes throughout his collection appear to have been made with scrupulous accuracy.

† [*Anteà*, p. 160.—ED.]

PENTHOCERYX PRAVATUS (Horsf.), Tr. Linn. Soc. xiii. p. 179, "Java" (1820).

Cuculus rufovittatus, Drapiez, Dict. Class. d'Hist. Nat. iv. p. 568, "Java" (1823).

Cuculus fasciolatus, Sal. Müller, Verh. Nat. Gesch. Nederl. Ov. Bez. Land- en Volk. p. 177, note, sp. 4, "Java and Sumatra" (1839–44).

"Sabu, ♀, iris warm brown, legs pale bluish lead; Busan, ♀, iris yellow, October."

The species which inhabits Malacca, Sumatra, Java, and Borneo is considerably smaller than *P. sonnerati* (Lath.) of India and Ceylon.

	Longitudo		
	Alæ.	Caudæ.	
Penthoceryx sonnerati	4·88	5·12	Candeish.
,, ,, ...	4·75	4·88	Ceylon.
,, ,, ...	4·75	4·62	Malabar.
,, ,, ...	4·88	5·0	Maunbhoom.
Penthoceryx pravatus	4·25	4·37	Java.
,, ,, ...	4·25	4·50	Malacca.
,, ,, ♂	3·88	4·0	Sarawak.
,, ,, ♀	4·0	4·0	Busan.
,, ,, ♀	4·0	4·12	Sabu.

Ibis, 1872, p. 368. SURNICULUS LUGUBRIS (Horsf.), Tr. Linn. Soc. xiii. p. 179, adult, "Java" (1820); Zool. Res. Java, pl. —.

Cuculus albopunctatus, Drapiez, Dict. Class. d'Hist. Nat. iv. p. 570, "Java" (1823), av. juv.

Pseudornis dicruroides, Hodgs. J. A. S. B. 1839, p. 136, pl.—, "Nipaul."

"Marup, iris brown."

Himalayan, Ceylon, Malaccan, and Javan individuals do not differ; and this Marup example also agrees with them.

	Longitudo		
	Alæ.	Caudæ.	
Surniculus lugubris	5·75	6	Java, full black plumage.
,, ,, ...	4·82	5·50	Java, full black plumage.
,, ,, ...	4·75	5·37	Malacca, changing from brown to black plumage; no spots.
,, ,, ...	5·37	5·88	Valley of Nepal, full black plumage.
,, ,, ...	5·75	6·0	Darjeeling, full black plumage.
,, ,, ...	4·88	5·88	Ceylon, full black plumage.
,, ,, ...	4·88	5·75	Ceylon, spotted plumage.
,, ,, ...	4·62	5	Marup, spotted plumage.

PELARGOPSIS LEUCOCEPHALA (Gm.), S. N. i. p. 456 (1788); Sharpe, Mon. Alced. pl. 59.

"Marup, ♂, iris brown, bill and legs scarlet."

CEYX SHARPII, Salvadori, Atti Ac. Sc. Torino, 1869, p. 463, pl. —, "Sarawak;" Sharpe, Mon. Alced. pl. 63.

"Marup, ♂, iris brown, bill and legs pale red."

A single example of a beautiful *Ceyx* in Mr. Everett's collection seems referable to this species, although it does not quite agree with Count Salvadori's diagnosis, nor with that given by Mr. Sharpe. It has the wings of *Ceyx tridactyla*, and it also possesses the large deep-blue spot on the sides of the head of that species. It is certainly not *C. dillwynni*, Sharpe, with the type of which I have compared it.

ALCEDO ASIATICA, Swains. Zool. Illustr. 1st ser. i. pl. 50, "some part of India" (1820–21); Sharpe, Mon. Alced. pl. 75.

"Marup, ♂, iris brown, feet claret-coloured; Marup, ♂, August, iris brown, bill black-brown, feet coral-red."

LYNCORNIS TEMMINCKI, Gould, Icones Av. pl. 6, "Borneo" (1838)*. Ibis, 1872, p. 369.

Caprimulgus pulcher, A. Hay, Madr. Journ. L. Sc. xiii. p. 161†, "Malacca" (1844).

"Marup, ♀, July, iris brown."

Identical with Malaccan examples.

CALYPTOMENA VIRIDIS, Raffles, Tr. Linn. Soc. xiii. p. 295, ♂, Sumatra" (1821); Horsf. Zool. Res. Java‡, pl. —, ♂.

Rupicola viridis, Temm. Pl. Col. 216 (August 20, 1823), "Sumatra."

Calyptomena rafflesia, Swains. An. in Menag. p. 296. no. 49, pl. 48. f. *a*, ♂ adult (18—?), ex Raffles.

Calyptomena caudacuta, Swains. *tom. cit.* no. 50, pl. 48. fig. b, ♂ juv. vel. ♀, "India."

"Marup, ♂, iris brown, July, not pairing."

Malaccan and Bornean examples do not differ.

CORYDON SUMATRANUS (Raffles), Tr. Linn. Soc. xiii. p. 303, "Sumatra" (1821).

Eurylaimus corydon, Temm. Pl. Col. 297, "Sumatra" (1824).

Corydon temmincki, Lesson, Man. d'Orn. i. p. 177, ex Temminck (1828).

"Busan, ♂, iris light brown, bill and legs purplish."

A young bird changing into adult plumage. Prevailing colour above dingy dark olive-brown. Malaccan and Sumatran examples exhibit no distinctive characters.

EURYLAIMUS JAVANICUS, Horsf. Tr. Linn. Soc. xiii. p. 170, "Java" (1820); Zool. Res. Java, pl. —.

Eurylaimus horsfieldi, Temm. Pl. Col. 130, ♂ ad., 131, av. juv., "Java" (1823).

"Marup, ♂, iris yellow; Jambusan, ♂ (*av. juv.*), iris yellow, bill blue, legs claret; ♀ (*av. juv.*), iris yellow, bill blue, legs claret."

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* Mr. Gould (*l. c.*) quotes P. Z. S. pt. vi. 1838; but I have failed to find the reference.

† [*Anteà*, p. 12.—ED.]

‡ But not known to occur in Java.

Ibis, 1872, p. 370. Identical with Malaccan examples. The young birds are fairly represented in Temminck's plates. The young of both sexes are in similar plumage. The bill is black in the dried specimen.

EURYLAIMUS OCHROMELAS, Raffles, Tr. Linn. Soc. xiii. p. 297, "Singapore and Sumatra" (1821).

Eurylaimus cucullatus, Temm. Pl. Col. 261, "Sumatra" (1824).

Eurylaimus rafflesi, Less. Compl. Buff. ii. p. 433, ex Raffles (1840).

"Simunjon, ♀, iris yellowish, bill blue, legs purplish; ♀ (*av. juv.*), iris yellow, bill blue, legs pinkish."

The young bird has little or no black on the throat, which, with the upper breast, is white; remainder of under surface yellow, a few new vinous feathers appearing on the breast. Black collar wanting. Frontal plumes yellow.

A Penang example in perfect plumage has the black collar interrupted on the breast. According to Sir Stamford Raffles this is peculiar to the female; and in the adult authentic female examples from Simunjon the collar is likewise interrupted, being almost absent.

CYMBIRHYNCHUS MACRORHYNCHUS (Gm.), S. N. i. p. 446 (1788), ex Latham.

Great-billed Tody, Lath. Synop. i. p. 664. no. 14, p. 30, "Leverian Museum," descr. orig.

Todus nasutus, Lath. Ind. Orn. i. p. 268. no. 14, ex Lath. (1790); Gen. Hist. iv. p. 94, pl. 65; Temm. Pl. Col. 154, "îles de la Sonde."

Eurylaimus lemniscatus, Raffl. Tr. Linn. Soc. xiii. p. 296, "Sumatra" (1821).

Platyrhynchus ornatus, Desm. Hist. Nat. Tang. (Hist. Nat. Platyrinques) livr. iv. ex Lath. (1805).

Erolla nasica, Less. Tr. p. 260, "Sumatra" (1831).

Examples from Malacca, Banjermassing, and Sarawak do not differ.

The sternum alluded to by Mr. Sclater (Ibis, 1872, p. 178) and figured (p. 179. fig. 3) belongs to a Bornean example of this species and not to *Eurylaimus javanicus*.

Ibis, 1872, p. 371. PITYRIASIS GYMNOCEPHALUS (Temm.), Pl. Col. 572, "Borneo" (1835).

"Marup, ♀, iris dark brown, legs pinkish white."

Colour of soft parts in the male is not noted. Females seem to differ from males by having most of the abdominal and ventral feathers edged with carmine. The wing of this remarkable species is long and powerful. The first quill is about two thirds of the length of the second, which is three fourths of an inch shorter than the third; the third is equal to the fifth, the fourth being a little the longest. The tail is short and even. The first quill has a round white mark at its insertion, on the inner web. In the next six quills this white mark expands and forms a broad white bar on the inner webs. It is wanting on the secondaries. One, a middle rectrix of a female example, is crossed by a dingy, obscure, carmine mark. In all the other examples the rectrices are uniform dark slate-black.

	Longitudo			
	Alæ.	Caudæ.	Tarsi.	Rostr.
♂	5·88	3·50	1·37	1·50
♀	6·	3·50	1·37	1·50

ARTAMUS LEUCORHYNCHUS (Linn.), Mantissa Plant. p. 524, "Manilla" (1771); Walden, Tr. Zool. Soc. viii. p. 67[*].

"Marup, ♂, iris brown, bill bluish white, legs lead-grey."

This locality must be added to those given by me (*l. c.*).

GRAUCALUS CONCRETUS, Hartlaub, J. für Orn. 1864, p. 445, ♀ *vel* ♂ *juv.*, "Borneo."

Graucalus fasciatus (Vieill.), apud Hartlaub, *tom. cit.* p. 444, nec Vieillot.

An example of a female or of a young male *Graucalus*, but unfortunately without a label, formed part of Mr. Everett's collection. It is not to be distinguished from Malaccan individuals collected by the late Mr. Maingay, and noted by him as being females, excepting that the wing is slightly shorter and the secondaries are not so broadly margined with white. It agrees completely with Dr. Hartlaub's diagnosis (*l. c.*) of *G. concretus.* Dr. Hartlaub (*tom. cit.*) described two distinct species from Borneo: the one he referred to *G. fasciata*, Vieill., a title given to Daubenton's 629th plate, and within whose range he includes Sumatra; on the other he bestowed the above title, restricting its range to Borneo. Without questioning the fact that two distinct species of fasciated Cuckoo-Shrikes may inhabit Borneo, only one is known in the Malay peninsula, which we may by analogy infer to be the same as the Sumatran; and this species is certainly not *Coracina fasciata*, Vieillot. Indeed the Malaccan *Graucalus* has never had a distinctive title bestowed upon it, it having been confounded with the bird figured by Daubenton, pl. 629, a Philippine species and totally distinct. I adopt, therefore, for the Bornean and Malaccan *Graucalus*, Dr. Hartlaub's title.

Ibis, 1872, p. 372.

PERICROCOTUS ARDENS, Boie; Bp. Consp. Av. i. p. 357, "Sumatra" (1850).

"Marup, ♂, iris brown, July, pairing."

It is with some doubt that I identify the example sent with *P. ardens*, Boie; for the Indo-Malayan members of the genus have never been brought together and satisfactorily identified. This Marup bird agrees in all respects with Sumatran and Malaccan individuals. In colouring it closely resembles *P. speciosus* (Lath.), of which it is nothing but a miniature form. Wing 3·18 inches, tail 3·37. *Muscicapa miniata*, Temm. Pl. Col. 156. fig. 1, "Java," if not the same species, may be the Javan representative form. The bird represented (*l. c.* fig. 2) must be another species.

[†] PERICROCOTUS MINUTUS, Strickl. Contrib. Orn. 1849, p. 94. no. 22, ♂, pl. —, "Borneo."

"Marup, ♀, iris brown, July, not breeding."

Streak over the eye but not extending beyond, cheeks, forehead, chin, throat, all the under surface of the body, under shoulder-coverts, and underside of the wing-band deep golden. Sides of the head pale ash. Head and back slate-grey; tips of the rump-feathers orange-red. Upper tail-coverts bright orange-red. Alar bar above orange-yellow. Middle pair of rectrices brown, lateral orange-red. Wing 2·80 inches, tail 2·95.

The style of plumage of this example is certainly never met with in *P. peregrinus*, which it barely exceeds in dimensions; and with little doubt I refer it to Mr. Strickland's species, which, although closely resembling the preceding species, *P. ardens*, apud nos, is described by him as not exceeding *P. peregrinus* in size. *P. igneus*, Blyth, J. A. S. B. 1846, p. 309, may possibly be

Ibis, 1872, p. 373.

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[*] [*Anteà*, p. 168.—ED.]

[†] [=*P. igneus*, Bl. T., MS. note).—ED.]

this form; for it likewise is described as being barely larger than *P. peregrinus*; but it may be equal to *P. ardens*, apud nos. If identical with this Bornean bird, Mr. Blyth's title will have precedence (*conf.* Blyth, Ibis, 1866, p. 369, and *op. cit.* 1867, p. 184).

PHILENTOMA VELATUM (Temm.), Pl. Col. 334, ♂, "Timor and Java" (1825).

Monacha cæsia, Lesson, Rev. Zool. 1839, p. 167, ♀, "Sumatra."

Muscicapa pectoralis, A. Hay, Madr. Journ. L. & Sc. xiii. p. 161*, ♂, "Malacca" (1844).

Philentoma unicolor, Blyth, Ibis, 1865, p. 46, ♀, "Borneo."

Vicinity of Sarawak?

One male in the collection. Sumatran, Malaccan, and Bornean examples do not differ.

With doubt I follow Mr. Moore and the late Mr. G. R. Gray, and place this Flycatcher in *Philentoma*, Eyton.

TCHITREA AFFINIS, A. Hay, J. A. S. B. 1846, p. 292, "Malacca."

"Foot of Matang, ♀, iris white, legs and bill cobalt; Marup, ♂, iris brown."

The female is in dingy rufous plumage with a grey throat. The male in pure white, the black of the shafts of the central pair of rectrices extending to their tips. In a white Sarawak male (Wallace) the terminal half of the shafts are white, as in *T. paradisi*, excepting within half an inch of the end, where they are black. In a Penang example a similar variation is observable. One from Sumatra has the entire shaft black.

CYORNIS ELEGANS (Temm.), Pl. Col. 596. f. 2, "Sumatra (1836).

"Marup, in August, ♂, iris chocolate, legs lead-colour."

Ibis, 1872, p. 374. I provisionally identify a single example obtained of a *Cyornis* with the Sumatran species, not having had an opportunity of making a comparison.

Chin, the entire throat, forehead, superciliary stripes, upper tail-coverts and shoulders of the wing bright cobalt-blue. A patch of pale rufous on the breast. Flanks very dilute rufous. Lower breast, belly, and under tail-coverts pure white. Lores and under surface of rectrices black. Remainder of plumage rich indigo-blue. Of the same type as *Cyornis rubeculoides* (Vigors), but much more brilliantly coloured. Mr. Blyth (Ibis, 1865, p. 44) considers *Muscicapa elegans*=*Phœnicura rubeculoides*, Vigors; if this be so, the Bornean *Cyornis* is a distinct species. I very much question the correctness of Mr. Blyth's identification; for Temminck describes the Sumatran *Cyornis* as having the chin and cheeks, along with the forehead and shoulders, of a bright azure-blue, a feature not to be found in the continental species.

ERYTHROPITTA GRANATINA (Temm.), Pl. Col. 506, "Pontianak, Borneo" (1830); Schlegel, Vog. Nederl. Ind. *Pitta*, p. 35, pl. 5. fig. 3, ♂, adult, "Banjermassing;" Mus. Pays-Bas, *Pitta*, p. 5.

Brachyurus granatinus (Temm.), Elliot, Ibis, 1870, p. 417, *partim*, fig. 4.

"Marup, ♂, iris brown, April."

I concur with Mr. Gould in regarding the Bornean bird as specifically distinct from that of Malacca, *E. coccinea* (Eyton). The following points of difference appear to be constant in

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* [*Antea*, p. 13.—ED.]

Erythropitta granatina:—The black on the forehead recedes more from the base of the bill and occupies more space, thus diminishing the extent of crimson. The shade of crimson is much darker, being deep cherry-red and not vermilion. The blue stripes on the sides of the head and the blue wing-coverts are distinctly paler; on the other hand the back is very much darker, and glossed with a totally different shade of purple. The red of the abdominal region and under tail-coverts is conspicuously deeper.

MELANOPITTA MUELLERI (Bp.), Consp. Av. i. p. 256, "Celebes," *errore* (1850), ex Müll. & Schlegel.

Pitta atricapilla, Müll. & Schlegel, nec auct., Verh. Nat. Gesch. Nederl. Ind. *Zool.* p. 19. no. 19, "Borneo;" Schlegel, Vog. Nederl. Ind. *Pittæ*, p. 31. no. 4, pl. 2. fig. 2, "Borneo méridional;" Mus. Pays-Bas, *Pitta*, p. 3. Ibis, 1872, p. 375.

"Marup, ♂, iris brown; ♀, iris brown."

Both examples in adult plumage. In the male the first four primaries are tipped with black, the fifth slightly; the next five quills are pure white to their extremities. In the female examples all the quills are terminated with black, on the first quill the white forming but a narrow bar.

TIMALIA NIGRICOLLIS, Temm. Pl. Col. 594. fig. 2, "Borneo" (1836); Hartl. Rev. Zool. 1846, p. 4.

Timalia erythronota, Blyth, J. A. S. B. 1842, p. 793, "Singapore."

Brachypteryx nigrogularis, Eyton, Ann. Nat. Hist. 1845, p. 228, "Malay peninsula."

"Marup, ♂, iris crimson; Matang, ♂, iris crimson, bill and legs black."

Agrees with examples from Sumatra, Malacca, and Penang.

MACRONUS PTILOSUS, Jard. & Selby, Ill. Orn. pl. 150 (1835).

Timalia trichorros, Temm. Pl. Col. 594. fig. 1, "Sumatra, Borneo" (1836).

"Busan, ♂, Marup, ♀, iris brown."

Sexes alike. Bornean examples are somewhat larger than those which inhabit Sumatra and Malacca, and are perhaps somewhat lighter in shade.

MIXORNIS BORNENSIS, Bonap. Consp. i. p. 217, "Borneo" (1850); Hombr. & Jacquin. Voy. Pôle Sud, iii. p. 90, pl. 19. fig. 2, "Banjermassing;" Sclater P. Z. S. 1863, p. 215. no. 64, "Banjermassing."

"Marup, ♂, iris Naples yellow; ♀, bill lead-brown, iris Naples yellow, legs red-brown; August, not breeding."

This *Mixornis* is well figured (*l. c.*). The Marup examples have the ground-colour of the lower breast and belly of a more lively yellow than a Banjermassing individual. I am acquainted with and have compared five distinct species of this genus, of which the following are the titles:—

1. *Motacilla rubicapilla*, Tickell, J. A. S. B. 1833, p. 576, "Jungles of Borabhúm and Dholbhúm." Ibis, 1872, p. 376.

Iora chloris, Hodgs. MS.; Blyth, J. A. S. B. 1842, p. 794; *op. cit.* 1844, p. 380, "Lower hills of Nipaul."

Mixornis ruficeps, Hodgs. P. Z. S. 1845, p. 23.

Mixornis rubicapilla (Tickell); Jerd. B. Ind. ii. p. 23; Walden, P. Z. S. 1866, p. 547*, "Salween valley."

Nepal and Bootan Himalayas, Central India (*Jerdon*); Assam (*Godwin-Austen*); Tenasserim (*Beavan*).

2. *Motacilla gularis*, Raffles, Linn. Tr. xiii. p. 312, "Sumatra" (1821); Walden, *l. c.*
Timalia gularis (Raffles); Horsf. Zool. Res. in Java, pl. —, "Sumatra."
Mixornis sumatrana, Bp. Consp. i. p. 217, "Sumatra" (1850).
Timalia similis, Temm., Mus. Lugd.; Blyth, Ibis, 1865, p. 47, "Sumatra."
Mixornis similis, Blyth, G. R. Gray, Hand-list, no. 4723, "Sumatra."
Mixornis sumatrana, G. R. Gray, *tom. cit.* no. 4720, "Sumatra."
Prinia pileata, Blyth, J. A. S. B. 1842, p. 204, "Malay peninsula."
Sumatra (*Wallace*); Malacca (*mus. nostr.*).

3. *Mixornis javanica*, Cab.† Mus. Hein. i. p. 77, "Java" (1850).
Myiothera gularis, Temm. Pl. Col. 442. fig. 1, "Java and Sumatra."
Mixornis gularis (Horsf.); Bp. Consp. i. p. 217, "Java," nec. Horsf.; G. R. Gray, H.-list, no. 4717, "Java," nec Horsf., nec Hombr. & Jacquin. Voy. Pôle Sud, pl. 19. fig. 2.
Java (*Wallace*).

4. *Mixornis bornensis*, Bp. *ut supra.*

5. *Timalia flavicollis*, Müller; Bp. *l. c.*, "Java" (1850). A true *Mixornis.*
Java (*Wallace*).

Ibis, 1872, p. 377.

ORIOLUS XANTHONOTUS, Horsf. Tr. Linn. Soc. xiii. p. 152, ♂, "Java" (1820); Zool. Res. Java, pl. —.
Oriolus leucogaster, Reinwardt; Temm. Pl. Col. 214, ♂, ♀, "Java" (1823).
Oriolus castanopterus, Blyth, J. A. S. B. 1842, p. 796, ♀, "Singapore."

An old male; precise locality not mentioned. Does not differ from Malaccan and Banjermassing individuals.

SETORNIS CRINIGER, Lesson. (Plate XII. *in orig.*)

Rev. Zool. 1839, p. 167, "Sumatra;" nec *Brachypus criniger*, A. Hay, J. A. S. B. xiv. p. 377 (1845); nec *Setornis* (?) *criniger*, A. Hay, Blyth, Cat. Cal. Mus. p. 212, no. 1283.

"Sabu, ♂, iris chocolate."

Above fuliginous brown, deepest on the head, and tinged with olive on the back and sides of neck. Quills brown edged with ferruginous. Inner edges of quills white seen from above, albescent from below. Rectrices graduated, brown; all but the middle pair, with the terminal part of the inner web, pure white above for about three quarters of an inch. Lores and a streak passing above the eye, lower part of the cheeks, chin, throat, and upper part of breast white faintly tinted with pale iron-grey. A small space before the eye, and extending behind the eye, dark brown or black. A pale grey space below the eye. Lower breast pale straw-colour, some of the feathers being tipped with pale ashy brown. Remainder of lower surface and under tail-coverts pale straw-colour. Flanks pale fuliginous-brown. Under shoulder-coverts mixed pale yellow and pale brown. Bill horn-brown, shading to pale grey or bluish grey at the tip of the maxilla and throughout most of the mandible. Feet very pale pink or flesh-colour. A bunch of fine black hairs springs from the nape. The bill is long, much compressed towards the tip: the maxilla has the culmen perfectly straight; at the tip it bends suddenly downwards, forming a formidable hook and showing a distinct notch. The commissure is also quite straight, and the maxilla rather overlaps the mandible. The gonys is curved. The rictus is armed with powerful and long bristles. The tarsus is short, and the toes are weak. The first quill is about two thirds of the length of the second; this is half an inch shorter than the third, which, again, is nearly as much shorter than the fourth. The fourth quill is longest and slightly exceeds the fifth, the sixth being somewhat longer than the third.

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* [*Anteà*, p. 24.—ED.]

† *Consf.* Bp. Coll. Delattre, p. 41, note. Notwithstanding the ungenerous observation contained in the reference, Dr. Cabanis is undoubtedly right. He was the first to recognize the fact that Horsfield (Zool. Res.) figured the Sumatran bird.

Ibis, 1872, p. 378.

An example, labelled a female, obtained by Mr. Wallace at Sarawak, and now in his collection, has the under plumage hardly tinted with yellow, the under tail-coverts nearly pure white, and the breast-feathers more decidedly brown. It exhibits also a distinct black stripe below each cheek.

Another example (♀ *fide* Wallace), also obtained at Sarawak, and now in my collection, differs by having the upper plumage of a lighter shade of brown, the under plumage more or less pure white, and the bill shorter.

	Longitudo				
	Rostr.	Alæ.	Caudæ.	Tarsi.	
♂	0·88	3·75	3·75	0·62	Sabu.
♀	0·75	3·62	3·62	0·62	Sarawak (mus. nostr.).
♀	0·80	3·75	—	0·62	,, (mus. Wall.).

Notwithstanding the difference of colouring exhibited by these three individuals, I do not doubt that they belong to the same species. Generally they agree so well with the description given by Lesson (*l. c.*) of *S. criniger* that, unless the Bornean is a representative form, it will in all likelihood prove to be the same as that hitherto unidentified Sumatran species. I suspect that this is also the type of *Trichophoropsis*, Bp., *T. typus*, Bp., Compt. Rend. vol. xxxviii. p. 59, "Borneo" (1854).

Brachypus criniger, A. Hay (*l. c.*) ex Malacca, is a totally distinct species. It is a small bird (wing 2½ inches), with the bill of an *Alcippe*. Underneath it is bright yellow, above ferruginous olive. The rectrices are pale ferruginous, with obscure pale yellow tips. Mr. Blyth has identified *Criniger sericea*, Müller, *Mus. Lugd.*, with this species (Ibis, 1865, p. 48); Mr. Wallace obtained it at Sarawak. It is probably *Trichophoropsis viridis*, Bp. (*l. c.*), "Borneo" (1854), and *Trichophorus minutus*, Hartl. J. für O. 1853, p. 156, "Malacca" (*conf.* O. Finsch, J. für O. 1867, p. 19).

Ibis, 1872, p. 379.

ALCURUS OCHROCEPHALUS (Gm.), S. N. i. p. 821 (1788), ex Brown.

Yellow-crowned Thrush, Brown, Illustr. p. 50, pl. 22, "Ceylon (*errore*) and Java."

Trichophorus crispiceps, Blyth, J. A. S. B. pp. 186, 204, "Tenasserim" (1842).

Ceylonese Stare, Lath. Syn. ii. p. 11. no. 11, "Ceylon."

Sturnus zeylanicus, Gm. *tom. cit.* p. 804. no. 11 (1788), ex Lath.

Trachycomus ochrocephalus (Gm.), Cab. Mus. Hein. i. p. 109.

Examples from Java, Sumatra, Malacca, Sarawak, and Tenasserim are identical.

The description of the Ceylonese Stare given by Latham agrees well with this species, although, of course, the Ceylon habitat is erroneous.

Its affinities seem to be with *Alcurus striatus*, Blyth; and therefore I do not adopt the genus *Trachycomus*, formed for it and three other forms of *Pycnonotus* by Dr. Cabanis (*l. c.*).

KITTACINCLA SUAVIS (Sclater), P. Z. S. 1861, p. 185, "Borneo meridionalis," *op. cit.* 1863, p. 216.

"Marup, ♂."

This example possesses the three outer pairs of rectrices pure white from their insertion, the fourth pair being only partially black on the inner web. The average length of the wing in Ceylon, Maunbhoom, Hainan, Malaccan, and Sumatran *K. macroura* is 3·63 inches, in Javan 3·87; in this Bornean representative form it is fully 4 inches. It is interesting to find that the North Bornean bird possesses the distinctive characters first noticed in that from South-east Borneo.

PRIONOCHILUS MACULATUS (Temm.), Pl. Col. 600. fig. 3, ♂, "Borneo" (1836).

"Simunjon, ♂, iris dark red, bill and legs dark brown."

Malaccan examples are identical.

PRIONOCHILUS XANTHOPYGIUS, Salvadori, Atti Ac. Sc. Torino, 1868, p. 416, pl. —. fig. 1 ♂, 2 ♀, "Borneo."

"Jambusan, ♂."

Ibis, 1872, p. 380.

A good species, peculiar to Borneo, differing from *P. percussus* (Temm.) by having the uropygium bright yellow.

DICÆUM CHRYSORRHŒUM, Temm. Pl. Col. 478. fig. 1, ♂, "Java" (1829).

Dicæum chrysochlore, Blyth, J. A. S. B. 1842, p. 1009, ♀, "Arracan."

"Marup, ♂, iris red, bill black."

Undistinguishable from Malaccan and Tonghoo examples. In the Hand-list, no. 1417, *D. croceoventre*, Vigors, is erroneously given as a synonym of this species.

DICÆUM TRIGONOSTIGMA (Scop.), Del. Fl. Faun. Insubr. ii. p. 91. no. 64 (1786), ex Sonnerat; Walden, P. Z. S. 1866, p. 545 *, "Moulmein."

Le grimpereau siffleur de la Chine, Sonnerat, Voy. aux Indes, ii. p. 210, pl. 117. fig. 2, ♂.

Certhia cantillans, Lath. Ind. Orn. i. p. 299, no. 61 (1790), ex Sonnerat; Temm. Pl. Col. 478. f. 3, ♂, "China (! ?), Java."

Dicæum croceoventre, Vigors, Memoir of Raffles, p. 673, ♂, "Sumatra" (1830).

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* [*Antea*, p. 22.—ED.]

"Marup, iris brown."

Compared with six adult males from Malacca and one from Penang, this Bornean individual differs by having the entire throat much darker grey, and the breast deeper orange.

ÆTHOPYGA SIPARAJA (Raffles), Tr. Linn. Soc. xiii. p. 299, ♂, adult, "Sumatra" (1821); Walden, Ibis, 1870, p. 33*; *op. cit.* 1871, p. 166.

Æthopyga eupogon, Cab. Mus. Hein. i. p. 103, note, "Malacca, Borneo" (1850).

"Marup, ♂, July, pairing; iris and legs brown. Marup, ♀, August; bill and iris brown; legs pale red."

In no respect different from Malaccan and Penang examples. The Sumatran species may differ, in which case this species will have to take Jardine's title of *lathami*, unless, indeed, it be the same as the Javan, when *mystacalis*, Temm., must be adopted.

The example marked "Marup, ♂, August," appears to be a young male. Above it is pale olive-green; underneath paler olive-green, but with many of the chin-, throat-, and breast-feathers edged with crimson. A young example of an authentic specimen of *Æ. miles*, in my collection, wears an almost similar garb. Some Malaccan examples of immature males (mus. nostr.) have the throat streaked with yellow, the plumage of the neck and back being brown and crimson mixed. Ibis, 1872, p. 381.

ARACHNECHTHRA MACULARIA (Blyth), J. A. S. B. 1842, p. 107, ♀, "Malacca."

Nectarinia hypogrammica, Sal. Müller, Verh. Nat. Gesch. Ned. Overz. Bez. Land- en Volkenk. p. 173, note, "Sumatra, Borneo" (1843); *id. op. cit. Aves*, p. 63, pl. 8. fig. 3, ♂ (1846); Walden, Ibis, 1870, p. 31*.

"Marup."

Since writing on this species (*l. c.*) I have received many examples from Malacca and Borneo. They in no way differ.

CALORNIS INSIDIATOR (Raffles), Tr. Linn. Soc. xiii. p. 307, "Sumatra" (1821); *conf.* Walden, Tr. Zool. Soc. viii. p. 79†.

"Belilah‡, iris crimson, legs and feet black; Sabu, ♀."

The adult male perfectly agrees with a large series of Malaccan individuals, which I refer to the Sumatran species. I do not venture, from want of a sufficiency of Javan examples, to identify the Malaccan with the Javan *Calornis*, the single authentic Javan individual I have examined appearing to be separable. Adults of both sexes agree in colouring

TURTUR TIGRINA (Temm.), Knip, Pig. pl. 43 (1811); Walden, Tr. Zool. Soc. viii. p. 85†.

"Marup, ♂, iris Naples yellow, feet crimson."

Agrees with Malaccan, Javan, and Celebean examples.

ARGUSIANUS GRAYI (Elliot), Ibis, 1865, p. 423, "Borneo?"; *Phasianidæ*, pl. xii.

The examples sent by Mr. Everett are unfortunately without labels, but they were undoubtedly procured from some part of northern Borneo *. They belong, as Mr. Elliot was the first to point Ibis, 1872, p. 382. out, to a species totally distinct from the Malaccan *Argusianus argus* (Linn.). The dimensions of the Bornean *Argus* are considerably less. The feathers of the nape, back of the neck, the interscapulars, and the scapulars have black for their ground-colour, the markings being pure white. In *A. argus* the ground-colour of these feathers is brown, and the markings are ochreous. The markings in the Bornean species are of a different character, and are most minute and delicate. The throat, upper breast, and centre of the lower breast and of the abdomen are bright ferruginous, whereas in the Malayan species these parts are deep ruddy chocolate. The markings are quite different, and many are white. The other differential characters given by Mr. Elliot are not very apparent in Mr. Everett's examples. The ocellated marks on the scapulars are certainly smaller; but I can find no difference in the colouring or marking of the lateral rectrices. The following are some of the dimensions, viz.:—

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* [*Anteà*, pp. 81, 79.—ED.]

† [*Anteà*, pp. 179, 185.—ED.]

‡ I am not certain whether I have correctly deciphered the spelling of this locality.

	inches.
Longest primary, from carpal joint	13·50
Middle pair of rectrices	44·50
Longest outer pair of rectrices	19·00

Euplocamus nobilis, Sclater, P. Z. S. 1863, p. 119, pl. xvi. ♂, "Borneo;" Elliot, *Phasianidæ*, pl. xxvii.

Two female examples; no note of the locality, but probably from the neighbourhood of Sarawak, where Mr. Wallace also obtained an example (*fide* Sclater, *l. c.*). The hen of this species is distinguished from that of *E. ignitus* (Shaw) by the rectrices being dark brown or black.

Rollulus rouloul (Scopoli), Del. Fl. Faun. Insubr. ii. p. 93. no. 86 (1786), ex Sonn.

Rouloul de Malacca, Sonn. Voy. Indes. ii. p. 174, pl. 100, ♂, descr. orig.
Columba cristata, Gm. S. N. i. p. 774. no. 7, ♂ (1788), ex Sonn.
Phasianus cristatus, Sparrm. Mus. Carls. fasc. iii. pl. 64, ♂, "Celebes," *errore* (1788), descr. orig.
Tetrao porphyrio, Shaw & Nodder, Nat. Misc. iii. pl. 84 †.
Green Partridge, Lath. Synop. iv. p. 777. no. 21, pl. 67, ♀, ex Mus. Brit., descr. orig.
Ibis, 1872, p. 383. *Tetrao viridis*, Gm. S. N. i. p. 761. no. 46, ♀ (1788), ex Lath.
Perdix coronata, Lath. Suppl. Ind. Orn. p. 62. no. 1, ♂ et ♀ (1801).
Cryptonyx coronatus, Temm. Pl. Col. 350, ♂, 351, ♀, "Malacca, Sumatra, rare in Java (?)."

"Marup, ♂, iris brown, bill (red at base) black, legs coral-red."

Examples of both sexes, undistinguishable from Malaccan individuals.

Rhizothera longirostra (Temm.), Pig. & Gallin. iii. pp. 323, 721, "Sumatra" (1815); Gray & Hardw. Ill. Ind. Zool. pl. —. fig. 2, ♀.

Tetrao curvirostris, Raffles, Tr. Linn. Soc. xiii. p. 323, "Sumatra" (1821).

"Busan, October, ♂, ♀, iris sienna-red, bill black, legs white; Marup, July, ♀, iris brick-red, legs whitish."

These three examples agree perfectly with as many Malaccan specimens collected by the late

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* *Conf.* De Crespigny, Proc. Geogr. Soc. xvi. p. 173.

† I have not been able to ascertain the exact date of this volume.

Mr. Maingay. That gentleman noted one of his grey-breasted specimens as being a male. The example marked male by Mr. Everett has also a grey breast; and the two marked as being females are without the cinereous pectoral band. These independent observations coincide with Temminck's statements (*l. c.*).

HYPOTÆNIDIA STRIATA (Linn.), S. N. i. p. 262, "Philippines" (1766), ex Brisson; Walden, Tr. Zool. Soc. viii. p. 95 *.

"Marup, ♂, iris purple-red, legs leaden, bill red-brown."

In perfect plumage. Identical with Malaccan examples.

Letter on Lithofalco fieldeni *and* Erythrosterna parva, *from* Viscount WALDEN, P.Z.S., *to the* EDITOR *of* 'THE IBIS' (October 1872).

Ibis, 1872, p. 471.

SIR,—In the 'Proceedings of the Asiatic Society of Bengal,' no. v. May 1872, pp. 70, 71, will be found a description of a Falconine bird, termed a "Merlin," from Thayet-Myo, by Mr. A. O. Hume, and entitled by that gentleman *Lithofalco* (!) *fieldeni*, or Fielden's Merlin. The species in question belongs to the remarkable genus *Polihierax*, Kaup, founded for the reception of the African *Falco semitorquatus*, Smith (Illustr. S.-Afr. Zool. *Aves*, pl. 1), and of which *Hypotriorchis castanotus*, Heuglin (Ibis, 1860, p. 407) is the male (*cf.* Sclater, Ibis, 1861, p. 346, pl. 12). The strongly graduated rectrices, the double-notched maxillæ, the powerful legs, and the peculiar colouring of the plumage, differing also in the sexes, fully entitle the two known species to generic distinction. The occurrence of this African generic form in Burma is of the highest interest, more especially when considered together with the fact of *Machæramphus* being also represented in the Malay peninsula. I have little hesitation in identifying Mr. Hume's new Merlin, notwithstanding the genus he has classed it under, as *Polihierax insignis*, mihi (P. Z. S. part iii. 1871, p. 627 †, ex Burma).

In the 'Journal of the Asiatic Society of Bengal,' part ii. no. 1, 1872, p. 76, Mr. W. E. Brooks informs us that "the males of *Erythrosterna parva*, in the breeding-plumage, have the red on the breast bordered on each side by a stripe of velvet-black. In the winter the black border disappears," &c. This somewhat startling fact would have, anyhow, inclined me to conjecture that Mr. Brooks had met with another species; but, fortunately, I have lately had an opportunity of examining one of Mr. Brooks's specimens of his so-called *E. parva* in nuptial plumage. It turned out to be *Siphia* (*Menetica*) *hyperythra*, Cabanis (Journ. für Orn. 1866, p. 391), ex Ceylon, where other examples have been since obtained by Mr. Holdsworth. It may be added that the species seems to be only a winter resident in Ceylon, but that it never loses the black pectoral stripes. Ibis, 1872, p. 472.

Yours, &c.,
WALDEN.

Chislehurst, Aug. 27th, 1872.

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* [*Anteà*, p. 194.—ED.]

† [*Anteà*, p. 113.—ED.]

A. M. N. H. ser. 4, vol. x. p. 252.

On two new Species of Birds from the Philippine Islands. By Arthur, Viscount Walden, P.Z.S., F.R.S. [From the 'Annals and Magazine of Natural History,' ser. 4, vol. x., October 1872.]

Hyloterpe philippinensis, n. sp.

Feathers of the chin, cheeks, throat, and upper breast silky white, edged more or less with cinereous, a dingy sordid aspect being thus given to these parts; an indistinct obscure zone crossing the breast and bordering the upper breast-plumage, consisting of feathers which are dark ashy at their base, then pure white, tipped with dirty yellow; the remainder of the under plumage with the flanks and under tail-coverts sulphur-yellow, each feather, however, being iron-grey at the base and then white; entire head dark smoke-brown, lighter on the ear-coverts; remainder of upper plumage olive-green, rather darker on the outer edges of the quills and on the rectrices: under carpals and axillaries pale lemon-white; tail slightly forked; bill horn-brown.

Longitudo

Rost. a nar.	Alæ.	Caudæ.	Tarsi.
0·32	3·25	3·12	0·75

From an example obtained in Luzon by Dr. B. Meyer and labelled a "male."

Orthotomus castaneiceps, n. sp.

A. M. N. H. ser. 4, vol. x. p. 253.

Entire head, lores, streak under the eyes, and the ear-coverts chestnut; nape and interscapulary region dark ashy, with scarcely a tinge of olive-green; feathers of the middle of back, uropygium, and upper tail-coverts dark ashy at base, with yellowish olive-green tips; quills brown, with bright yellowish-green outer edges; rectrices above paler brown, edged near their insertion and more or less throughout their length with the bright yellowish green of the quills; outer rectrices decidedly darker brown than the middle pair; the middle pair, which is longest, with a faint subterminal bar or drop; the next pair with an obvious dark subterminal drop, which is still more evident in the remaining rectrices; all the rectrices with a narrow albescent terminal fringe; on their under surfaces the green edgings appear brighter than when seen from above; a few of the chin-feathers fulvous; throat and cheeks ashy white; feathers of the breast pale ash, with broad luteous or yellowish-white centres, giving the breast a striped appearance; the remainder of the feathers of the under plumage silky white, ashy at the base; those of the flanks with a faint yellowish tinge; shoulder-edge and under carpals yellowish white; axillaries silky white, tipped with yellowish green; thigh-coverts pale ferruginous; maxilla pale horn-brown; mandible yellowish white; legs like the maxilla, only paler. A large species with a long and stout bill.

Longitudo.

Rostr. a nar.	Alæ.	Caudæ.	Tarsi.
0·50	2	2·20	0·85

Obtained in the Philippine island of Guimaras by Dr. B. Meyer during the month of March. The single example procured is labelled a "male."

1873.

On a Collection of Birds recently made by Lieut. Robert Wardlaw Ramsay, F.Z.S., *in the Andaman Islands.* By Arthur, Viscount Walden, P.Z.S., F.R.S. [From 'The Ibis,' July 1873, Plates XI., XII., XIII., *in orig.*] Ibis, 1873, p. 296.

A young member of the B. O. U., Lieutenant R. Wardlaw Ramsay, H.M. 67th Regt., having, in the middle of December 1872, been sent on duty to Port Blair, in the Andaman Islands, immediately after arrival, availed himself with great energy of his opportunities, and, being an excellent shot as well as a keen naturalist, collected in a couple of months 460 specimens of birds, representing 62 species. These he has been good enough to forward to me for identification; and as many of them are of considerable interest and are accompanied by useful notes, I venture to offer to the readers of 'The Ibis' the following list of them, together with some observations on the more important species.

Mr. Blyth and the late Colonel Tytler are the principal authors who, until quite lately, had investigated the ornithology of the Andamans. But in February last, Mr. V. Ball[*] followed up two former and less complete papers on that subject by publishing an admirable list of the birds known to occur in the Andamans and Nicobars, every species hitherto noted as an inhabitant of these two insular groups being included. The list makes the total number recorded amount to 133; from which 24 must be deducted as being species as yet only known to inhabit the Nicobars, while 4 more are titles which doubtfully belong to Andaman species. To these 105 species of Andaman birds must be added some 18 species sent to Mr. Hume[†] after Mr. Ball's paper was in print, thus raising the total to 113, less 5, which are not indigenous, having been introduced by Colonel Tytler. Mr. Ramsay obtained two species, new to the Andaman fauna, which when added make the complete number of known Andaman birds at this date reach to about 110 species.

The avifauna of the Andamans, while containing some peculiar species, appears to resemble in character that of the highlands of India south of the Himalayas and west of the Brahmapootra, rather than that of the Indo-Malayan or Indo-Chinese countries. Ibis, 1873, p. 297.

1. Palæornis eupatrius (Linn.), S. N. i. p. 140. no. 7, ex Briss.; Finsch, Papag. ii. p. 11. no. 89.

Psittaca ginginiana, Briss. Orn. iv. p. 343, ex "Ginginiano regno."
Palæornis alexandri, auct. nec Linn.
Palæornis magnirostris, Ball, J. A. S. B. xli. p. 278, "Andamans" (1872).

"S. Andaman: ♀, iris straw-colour, a yellow rim round each eye."

Two females, do not differ from Ceylon, Indian, and Burmese examples of that sex. Bill not so large as in Ceylon and Candeish individuals.

2. Palæornis melanorhynchus, Wagler, Monogr. p. 511. no. 4 (1832); Finsch, Papag. ii. p. 70. no. 98, ♀ adult.

Palæornis nigrirostris, Hodgs. Gray's Zool. Misc. p. 85, "Nipaul" (1844), ♀ juv.

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[*] Str. Feathers, i. p. 51.

[†] *Op. cit.* p. 304.

Palæornis derbyanus, Fraser, P. Z. S. 1850, p. 245, pl. 25, ex patr. incog., ♀ adult.

Palæornis javanicus (Osbeck), Jerd. B. of Ind. i. p. 262. no. 152, nec Osbeck; Ball, J. A. S. B. xli. p. 279, no. 14, ♂.

Palæornis lathami, Finsch, tom. cit. p. 66. no. 97, ♂ adult (1868).

Six examples in perfect plumage. Two with the maxilla red, noted as males; two with both mandibles black, as females. I agree with Dr. O. Finsch in considering *P. alexandri*, Linn., =*P. javanicus*, Osbeck, known with certainty as an inhabitant of Java and Borneo only, totally distinct from the Indian, Burmese, Cambodian, and Andaman Parrot; but I cannot concur in his opinion that the black-billed birds belong to a species different from those with a red maxilla. These Andaman examples clearly belong to one species, the totally black bill being the chief distinguishing characteristic of the female.

Ibis, 1873, p. 298.

3. Palæornis erythrogenys, Blyth, J. A. S. B. 1846, p. 23, "Nicobars."

Palæornis nicobaricus, Gould, Birds of Asia, pt. ix. pl. (1857).

Palæornis affinis, Tytler, Beavan, Ibis, 1867, p. 320. no. 27, ♂ juv. vel ♀, "Andamans."

"S. Andaman: ♂, feet and legs bright olive-green."

Three males and seven females are in the collection. Males have the maxilla red and mandibula black; in the females both mandibles are black, and the moustache is deep rich green and not black.

4. Loriculus vernalis (Sparrm.), Mus. Carls. pl. 29 (1787).

"S. Andaman: ♂, ♀, iris straw-yellow."

Four examples, in no respect differing from Malabar and Burmese individuals.

5. Spilornis rutherfordi, Swinhoe, Ibis, 1870, p. 85, "Hainan."

Spilornis davisoni, Hume, Str. Feath. i. p. 307, "Andamans" (1873).

Hæmatornis cheela (Latham), Beavan, Ibis, 1867, p. 314. no. 1, "Andamans."

"S. Andaman: ♀, Dec. 27."

A single individual in perfect (?) plumage and almost identical, save in its dimensions, with an example of *S. cheela*, ♂, from Mussoorie, the only distinction being that the transverse striations on the throat and upper breast are not so dark nor as bold in the Andaman bird, and the chin and cheeks are concolorous with the throat and breast, and not dark brown.

Wing 15 inches; tail 10; tarsus 3·37; middle toe, without nail, 1·50; bill from nostril in a straight line 1, from gape to end of mandible 1·67.

It may be here added that *S. spilogaster*, Blyth (J. A. S. B. 1852, p. 351), was described from Ceylon examples. It closely resembles Javan *S. bacha*; and I have never seen it from any part of Continental India. The peninsular Indian bird, if different from the northern form, *S. cheela*, must take another title, the oldest applicable being *albidus*, Cuv., Temm. (1824). My examples from different parts of India, north and south, do not differ in plumage, unless the transverse striations of the pectoral plumage form a constant feature peculiar to the northern bird. This character I have found only in examples from the north and in those which inhabit the Indo-Chinese countries.

Ibis, 1873, p. 299.

6. SPILORNIS ELGINI (Tytler), J. A. S. B. 1863, p. 87, "Andamans;" Blyth, Ibis, 1863, p. 118.

Spilornis spilogaster, pt. Blyth, Ibis, 1866, p. 243.

Hæmatornis elgini, Tytler: Beavan, Ibis, 1867, p. 314. no. 2.

"S. Andaman: ♀, Jan. 15th; total length in the flesh 22 inches."

A perfectly distinct species, of a deep rich brown. Chin and cheeks almost black. Upper breast and throat almost uniform; three or four of the feathers only with one, two, or three white spots irregularly placed. Lower breast-feathers with three pairs of pure white almost round spots placed at regular intervals on each side of the shaft. Ventral plumage and thigh-coverts with four pairs of similar spots of a smaller size. Under tail-coverts traversed with three or four white bars almost, but not quite, running through, except the terminal white band, which is much narrower. Head and crest as in *S. cheela* and *S. bacha*, the black crest-plumes being narrowly fringed with bright ferruginous brown. Interscapular region and back uniform brown. Most of the scapulars with two small irregularly shaped white terminal dots. Secondaries narrowly and partially fringed with albescent. Upper tail-coverts somewhat irregularly spotted with white. Shoulder-coverts spotted as in *S. bacha.* Quills very deep brown, almost black. First quill with a narrow white bar on the inner web near insertion; a second and broader transverse mark an inch and a half lower down. The next three primaries with three or four *narrow* transverse grey or grey and brown marks. The remaining primaries with only two transverse marks; the upper very narrow, irregularly formed, and white; the lower about half an inch deep, and of a clouded grey-brown. Rectrices dark brown, with one very narrow, ill-defined, cloudy, pale band at about four inches from root of the tail; a broader, well-defined, pale band an inch and a half lower down and about three fourths of an inch deep. Rectrices terminated with a narrow pale fringe. Shoulder-edge dark brown. Under carpals and axillaries of the same hue as the lower plumage and profusely spotted with white. Ibis, 1873, p. 300.

Wing 15 inches; tail 10; tarsus 3; middle toe, without the nail, 1·50; bill from nostril to tip in a straight line 1.

The rich brown colour of the general plumage, the almost circular white spots of the lower plumage, which are sharply defined from the brown ground-colour, and not surrounded with a different shade as in *S. bacha*, the extreme narrowness of the alar and caudal bands, and the shortness of the tarsus and middle toe distinguish this beautiful species from all other known members of the genus. Seen from above it closely resembles adult Javan specimens of *S. bacha*, the narrow banding of the rectrices alone distinguishing it, and the dimensions of the wings and tail being about equal.

Whether it was examples of this species or of *S. rutherfordi* that were sent by Mr. Grote to the Zoological Society in 1865 must remain in doubt until Mr. Gurney has compared this Andaman skin with the specimen at Norwich *.

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* Mr. Gurney intends to make the necessary comparison when he next visits Norwich. It is impossible to read Mr. Blyth's original description of *S. elgini* (*l. c.*) without recognizing the bird above described. In the mean time I add the references on the disputed point:—Sclater, P. Z. S. 1865, p. 466; *op. cit.* 1871, p. 495; List of Vertebr. Z. S. Gard. 1872, no. 520; Beavan, *l. c.*; Blyth, Ibis, 1868, p. 131.

7. PICUS ANDAMANENSIS, Blyth, J. A. S. B. 1859, p. 412, "Port Blair."

"S. Andaman: ♀, ♂, iris dark brown; bill dark slate-colour; darkish on maxilla; legs and feet dark olive-green."

Represented by six individuals, four males and two females. All possess three pairs of distinct and prominent pure white spots on the middle rectrices, and a fourth pair, more or less indistinct, towards the apex.

Ibis, 1873, p. 301.

8. THRIPONAX HODGII (Blyth), J. A. S. B. 1860, p. 105, "Port Blair."

S. Andaman.

9. MEROPS QUINTICOLOR, Vieillot, N. Dict. xiv. p. 21 (1817), ex Levaillant.

Le Guêpier quinticolor, Levaillant, Hist. Nat. Guêpiers, p. 51, pl. 15, "Ceylon."

"S. Andaman: January and February, ♂, ♀, iris lake, legs and feet greenish black, bill black."

Appears to be very common. In no respect different from Ceylon, Malabar, and Burmese examples.

Mr. Swinhoe has pointed out (P. Z. S. 1871, p. 348. no. 81) that the Javan form is specifically different from the Indian. One character mentioned by him is not peculiar to the Javan bird, namely the blue tail. The Javan species, however, appears constantly to want the chestnut triangular throat-mark, the yellow throat being sharply separated from the green breast by a well-defined black band. Mr. Swinhoe further remarks that the Indian species must take the title of *Merops erythrocephalus*, Briss. This is Gmelin's title (S. N. i. p. 463. no. 13), founded on *Merops indicus erythrocephalus*, Briss. (Ornith. iv. p. 563), a species which Brisson never saw, and which he described from a drawing made by Poivre of a bird said to have come from the East Indies. It is impossible from Brisson's account to determine the species; and Gmelin's title must therefore be suppressed. Vieillot bestowed the title of *quinticolor* on a species figured and described by Levaillant (*l. c.*), and of which Levaillant states that he had received eight individuals, dried, from Ceylon. The plate and description are, notwithstanding, taken from a Javan bird. At page 55 of the same work Levaillant figured and described a second species, said to have been brought from Java by Laichenot. An immature example of either the Javan or the Indian species is represented; but as Levaillant describes the throat as being covered by "une plaque triangulaire d'un roux jaunâtre," I suspect that the subject of his description was either a Ceylonese or a continental example. On it Vieillot (*tom. cit.* p. 17) founded his title of *Merops leschenaulti*. Unfortunately no title has ever been given since Levaillant's time to the Indian species; and rather than disturb the received nomenclature Vieillot's title is here retained. Ibis, 1873, p. 302.

10. EURYSTOMUS ORIENTALIS (Linn.), S. N. i. p. 159 (1766).

"S. Andaman, December 31."

11. SAUROPATIS CHLORIS (Bodd.), Tabl. Pl. Enl. p. 49 (1783).

"S. Andaman: ♂, iris reddish brown; ♀, iris bright brown; Ross. Isl."

12. Entomobia smyrnensis (Linn.), S. N. i. p. 181. no. 11 (1776).

"S. Andaman: iris dark brown, legs and feet dark red, bill coral-red."

The six examples obtained by Mr. Ramsay in South Andaman differ from individuals from all other parts of Asia in the intensity of their colouring. Instead of chestnut-brown, the plumage of the head, shoulder-coverts, flanks, and under surface is deep chocolate-brown; and the blue portion of the plumage is much deeper in shade. I have compared these six individuals with forty-three examples from all parts of India, from Ceylon, Formosa, Burma, Malacca, Cambodia, and from Syria; and the differences above mentioned at once distinguish the Andaman race.

13. Calialcyon coromanda (Lath.), Ind. Orn. i. p. 252 (1790).

"S. Andaman: ♂, ♀, iris brown, legs and feet red."

14. Alcedo bengalensis, Gm. S. N. i. p. 450. n. 20 (1788).

"S. Andaman: ♀, bill above and tips of both mandibles black, lower coral-red; legs and feet vermilion; Ross. Isl."

15. Collocalia affinis, Tytler: Beavan, Ibis, 1867, p. 318.

"Chatham Island: iris brown, feet light brown, bill black."

A numerous series was obtained by Mr. Ramsay on Ross and Chatham Islands during the months of January and February. The species is apparently the same as *C. linchi*, Horsf. and Moore, and which I have very little doubt is the bird described from Java by Thunberg under the title of *Hirundo fuciphaga*. *Collocalia innominata*, Hume, Str. Feath. i. p. 294, "Port Blair," as described, agrees well with Sikim and Malaccan examples of so-called *C. fuciphaga* (Thunb.), and named *brevirostris* by McClelland (P. Z. S. 1839, p. 155), the type specimen of which was identified as being that of a *Collocalia* by Mr. Moore.

Ibis, 1873, p. 303.

16. Eudynamis malayana, Cab. Mus. Hein. iv. p. 52, "Sumatra" (1862–63).

Eudynamis honorata[*] (Linn.), Ball, Str. Feath. i. p. 63. no. 38, "Andamans."

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[*] Written *horonata* at page 173, [S. F. i.] by Mr. Hume (a quaint blunder), with the suggestion that I had written *honorata* through a "clerical oversight." The Calcutta printers, in this instance at least, are not responsible; for they have been made to reproduce, not correct, the palpable misprint in the 'Hand-list,' No. 9068. Surely, if there is not a copy of a Linnæus, or even of a Gmelin or a Latham, in any Calcutta library, there must be a Latin dictionary accessible. For the reason why Linnæus entitled the species *Cuculus honoratus*, cf. Walden, Ibis, 1869, p. 327 [*suprà*, p. 58]; in addition to which I may quote Gmelin, i. p. 413. no. 7, "*Cuculus honoratus. Habitat in* Malabaria, *reptilibus victitans, hinc forte incolis sacratus,*" which is only a repetition of Latham's remarks, *Sacred Cuckoo, C. honoratus*, L. (Syn. i. p. 526), "Inhabits Malabar, where the natives hold it sacred. It feeds on reptiles, which, perhaps, may be such as are the most noisome; if so, this seeming superstition may have arisen from a more reasonable foundation than many others of the like sort." This is an indifferent rendering of Montbeillard's observations on the "*Cuil*" (Hist. Nat. Ois. vi. p. 376), "Il est en vénération sur la côte de Malabar, sans doute parce qu'il se nourrit d'insectes nuisibles. La superstition en général est toujours une erreur, mais les superstitions particulières ont quelquefois un fondement raisonable." We have here an interesting illustration of the *crescendo* growth of a fallacy. Brisson simply stated that the Koel was held in veneration by the natives of Malabar, a story Linnæus perpetuated by the title he bestowed. Montbeillard not only repeated the statement, but added as a reason that it was because the Koel destroyed noisome *insects*. Latham improved on the insects and raised them to the rank of *reptiles*—a view Gmelin adopted; while Stephens, under *Cuculus honoratus*, Linn. (Gen. Zool. ix. pt. 1, p. 104), as a climax, credited the bird with killing both noxious reptiles and insects.

"S. Andaman: ♂, iris red, bill greenish white, legs slate-blue; ♀, iris lake. Ross Island, ♂."

Ibis, 1873, p. 304. The two males in full black plumage. The female peculiarly coloured and marked, and different from all peninsular Indian and Ceylon individuals I have had opportunities of examining. They agree well with Naga-Hills, Thayetmyo, and Malaccan examples, which I assume to be identical with Sumatran.

17. Cuculus micropterus, Gould, P. Z. S. 1837, p. 137, "Himalayas."

"S. Andaman: ♂, December 31; ♀, January 9; not sexed, January 24, iris yellow, legs and feet yellow ochre, bill dark brown above, yellow below; ♂, January 29, iris yellowish brown, legs and feet yellow, bill dark brown, yellow at base."

These four examples belong to one species. Two ♂ and one not sexed are, above deep bluish slate-colour; chin, throat, and upper breast pale ash, with tawny brown fringe to some of the feathers; the remainder of lower surface broadly barred in all four alike. The fourth example (♀) differs by having the upper plumage of a rich brown, with traces of plumbeous on the uropygium only, by the head being ashy brown, by the skin and throat only being ashy, much tinged with tawny rufous, and by the rectrices having the characteristic dark brown terminal band. That the first three are not in completely full plumage is shown by several of the secondaries being brown, more or less tipped, fringed, and indented with pure white and with pale ferruginous, and by the tawny fringings to the breast-feathers. The female (as sexed) also exhibits signs of immaturity, many of the secondaries and of the nuchal feathers being banded or otherwise marked with pale ferruginous and tawny. Provisionally I refer these Andaman individuals to *C. micropterus*, Gould; for a far more comprehensive examination and comparison of the Cuckoos of the Indian region than I have had opportunities of making would be requisite to determine the species with any degree of certainty. It has been suggested to me by my friend Ibis, 1873, p. 305. Mr. Blanford that the brown plumage of the example (sexed as a female) I have just described is a phase of the young male plumage, and the ultimate adult dress of the female; and there is much evidence in favour of this view.

	Long. alæ.	Caudæ.
♂	7·00	6·50
♂	7·00	6·50
?	7·00	6·50
♀	7·37	6·37

18. Centrococcyx andamanensis. (Plate XI. *in orig.*)

Centropus andamanensis, Tytler: Beavan, Ibis, 1867, p. 321.

"S. Andaman: iris red; bill, legs, and feet black."

19. Broderipus andamanensis (Tytler): Beavan, Ibis, 1867, p. 326. no. 52, "Andamans."

The series sent by Mr. Ramsay is so complete that I have thought it best to give the results in the following Table. All the examples, with the exception of the one not sexed, were killed in the month of January; and all are from the S. Andaman.

	Alæ.	Caudæ.	Tarsi.	Rostr.	
a, ♂	5·25	4	1	0·81	Perfect plumage; quills jet-black; no alar spot; depth of yellow crown 0·91, of black 0·75; "iris red; bill pinkish red; legs and feet plumbeous."
b, ♂	5·25	4·25	1	0·81	Perfect plumage; quills as above, but with some of the secondaries slightly tipped with yellow; no alar spot; depth of crown 0·91, of black 0·41.
c, ♂	5·12	4	1	0·81	Perfect plumage; wing as in last; no alar spot; proportions of yellow and black on head as in last.
d, ♂	5·25	4·12	1	0·81	Perfect plumage; tertiaries slightly tipped with yellow, thus forming an alar spot; secondaries as above; yellow crown 1, black 0·25. In these four examples the middle pair of rectrices are black, narrowly tipped with yellow.
e, ♂	5·25	4	1	0·76	Jan. 25; Mantle yellowish olive-green; one tertiary slightly tipped with yellow; secondaries not yellow-tipped, but washed with olive; middle rectrices at base washed with olive-yellow; quills and rectrices more brown than black; crown and nape as in *d*.
f, ♂	4·88	4	1	0·76	Young; above olive-yellow; beneath yellow and white; feathers brown-centred; chin and throat turning from white to yellow; under tail-coverts pure yellow; quills and rectrices pale brown tinged with olive-yellow; all the tertiaries edged with albescent yellow; no coronal ring. Jan. 18.
g, ♂	4·88	4	1	0·75	Younger; Jan. 10; chin and throat pure white, otherwise like *f*.
h, ♀	5·25	4	1	0·75	Full golden plumage; does not differ from *d*.
i, ♀	5	4·25	1	0·75	Jan. 25; like *e*, one or two tertiaries being tipped; "iris red."
j, ♀	5·12	4·25	1	0·75	Jan. 27; exactly like *i*.
k, ?	5	4	1	0·75	Not sexed; Dec. 27; young, like *f*, but with indications of the black coronal ring appearing behind the eyes.

Ibis, 1873, p. 306.

The Andaman black-naped Oriole is readily distinguishable by its almost totally black primaries and secondaries, from *B. indicus*, *B. coronatus*, *B. chinensis*, and *B. celebensis*. It is also smaller than any of these species. Its affinities are with *B. acrorhynchus*, *B. frontalis*, and *B. formosus*, which, however, greatly exceed it in size.

20. IRENA PUELLA (Lath.), Ind. Orn. i. p. 171, "India" (1790).

"S. Andaman."

Four males and as many females were obtained, and they perfectly agree with Malabar and Cambodian examples.

21. BRACHYPODIUS FUSCOFLAVESCENS, Hume, Str. Feath. i. p. 297, "Andamans" (1873).

Brachypodius melanocephalus (Gm.), apud Ball, J. A. S. B. 1872, p. 284, nec Gm.

One example was obtained. It appears to be a distinct species, having for its adult dress the immature plumage of *B. melanocephalus*. Ibis, 1873, p. 307.

22. OTOCOMPSA JOCOSA (Linn.), S. N. i. p. 138. no. 24, "China" (1766).

"S. Andaman: ♂."

Barely distinguishable from Bengal and Burmese examples. The Chinese bird is stated by Mr. Swinhoe (Ibis, 1861, p. 39; P. Z. S. 1863, p. 277) to be identical with those from Calcutta.

23. Kittacincla albiventris, Blyth, J. A. S. B. 1858, p. 269, "Port Blair." (Plate XII. fig. 1, *in. orig.*)

"S. Andaman: iris brown; legs and feet skin-colour; bill black."

24. Copsychus saularis (Linn.), S. N. i. p. 165, "Asia" (1766).

"S. Andaman: ♂, iris brown; legs, feet, and bill black. Ross Island, ♂, ♀."

An adult and an immature male from S. Andaman have the two outer pairs of rectrices pure white; the third pair white, with a black inner margin; the fourth pair white, with both outer and inner margins black. Another S. Andaman male has the fourth pair almost entirely black. A male from Ross Island has the first and second pair pure white; the third white, with a black margin to inner web; the fourth, like remaining pairs, jet-black. The under shoulder-coverts have a tendency to dark centres. A female from Ross Island has the rectrices marked as in the first S. Andaman male.

25. Arundinax aëdon (Pallas), Reise Russ. Reichs, iii. p. 695. no. 11, "Dauria" (1776).

Arundinax olivaceus, Blyth, J. A. S. B. 1845, p. 595.

"S. Andaman: Jan. 3; Feb. 2, ♀, maxilla dark brown, mandible whitish brown. Ross Island: Jan. 7, ♂, iris dark olive-brown, legs light slate-colour."

Sexes alike.

Ibis, 1873. p. 308. 26. Budytes viridis (Gm.), S. N. i. p. 962 (1788).

"S. Andaman: Dec. 27 and Jan. 16; iris brown; feet dark brown; maxilla dark brown; mandible, at base light horn-colour, dark at tip."

27. Alseonax latirostris (Raffles), Tr. L. S. xiii. p. 312, "Sumatra" (1821), *descr. princ.*; Jerd. Birds of India, i. p. 459. no. 297; Blanford, J. A. S. B. 1869, p. 173. no. 297, "Chanda."

Muscicapa poonensis, Sykes, P. Z. S. 1832, p. 85. no 42, "Dukhun."

Muscicapa latirostris, Swains. (*mot. propr.*) Nat. Libr. *Muscicapidæ*, p. 253, "India" (1838).

Muscicapa grisola, Linn., var. β, Pallas, Zoogr. Rosso-As. i. p. 461, "Dauria."

Muscicapa cinereo-alba, Temm. & Schl. Faun. Jap. *Aves*, p. 42, pl. xv., "Japan" (1842); Schrenck, Amur-Lande, i. p. 379. no. 106; Radde, Ost-Sibirien, ii. p. 273. no. 147.

Muscicapa pondiceriana, Licht. ex Gm.: Bp. Consp. i. p. 318, nec Gm.*; nec v. Middendorff, Sibir. Reise, ii. pt. ii. p. 188. no. 106, "Uds 'kój' Os 'tróg and Schantár islands," =*M. sibirica*, Gm. tom. cit. p. 936.

Hemichelidon latirostris (Raffles), Horsf. & Moore, Cat. Mus. E. I. C. i. p. 137. no. 177.

Butalis latirostris (Raffles), Swinhoe, P. Z. S. 1871, p. 379. no. 325.

"S. Andaman: Dec. 27, ♂, Jan. 16, Feb. 5; iris dark brown; legs and feet brown; maxilla brown; base of mandible yellow."

Not to be distinguished from Malaccan, Malabar, Lake Baikal, Japan (Hakodadi, May 5), and China (October) individuals.

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* *Muscicapa pondiceriana*, Gm. S. N. i. p. 939. no. 45, was founded on Sonnerat's *Gobe-mouches de Pondichéry*, and is a *Tephrodornis*.

28. Hypothymis tytleri (Beavan), Ibis, 1867, p. 324. no. 45, "Andamans;" Ball, Str. Feath. i.5 p. 68. no. 58.

"S. Andaman: ♂, iris brown; maxilla dark brown; mandible and legs dull blue: sex ?, bill black; legs and feet bluish slate; iris dark brown." Ibis, 1873, p. 309.

Two examples, both of young birds. Entire head, chin, and throat dark blue. Breast and abdominal region dark ashy, paler on under tail-coverts. Remainder of plumage brown. Identical with Malabar and Burmese individuals. Mr. Ball, who has compared adult birds, seems to consider the Andaman form distinct from *H. azurea*.

29. Tchitrea affinis, A. Hay, J. A. S. B. 1846, p. 292, "Malacca."

"S. Andaman, Jan. 17: ♂, iris dark blue; bill, legs, and feet bluish slate; interior of mouth yellow."

In black and white plumage.

30. Hirundo gutturalis, Scopoli, Del. Fl. Faun. Insubr. ii. p. 96. no. 115 (1786).

"S. Andaman, Jan. 27: bill and legs black."

31. Artamus leucorhynchus (Linn.), Mantissa Plant. p. 524, "Manilla" (1771); Walden, Tr. Zool. Soc. viii. p. 67 *.

Artamus leucopygialis, Gould, Walden, P. Z. S. 1866, p. 555 †, "Andamans."

"S. Andaman, Ross Island, ♂ ♀: iris brown; legs and feet greenish black; bill bright slate-blue."

The sexes, as ascertained by Mr. Ramsay, do not differ in either dimensions or colouring.

32. Lanius lucionensis, Linn. S. N. i. p. 134. no. 10 (1766).

"S. Andaman, ♂, Jan. 12, 29; Ross Island, ♂, Dec. 15, Jan. 4."

Four examples, undistinguishable from Philippine individuals.

33. Pericrocotus andamanensis, Tytler: Beavan, Ibis, 1867, p. 322. no. 41.

"S. Andaman, ♂ ♀: iris dark brown; bill and feet black."

Of six examples three are adult males, two adult females, and one a young male in yellow and grey plumage here and there turning to deep orange. They belong to the same group as *P. speciosus*, but are much smaller in size, their chief if not sole distinguishing character. Ibis, 1873, p. 310. *P. ardens*, apud nos, from Sumatra, Malacca, and Borneo, belongs to the same section, but is still smaller and more deeply coloured.

	Long. alæ.	Caudæ.		
P. speciosus . . .	4	4·37	♂ adult.	Valley of Nepal.
,, ,, . . .	4·60	4·50	,,	Maunbhoom.
P. andamanensis . .	3·50	3·87	,,	S. Andaman.
,, ,, . .	3·60	3·75	,,	,,
,, ,, . .	3·50	3·60	,,	,,

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* [*Anteà*, p. 168.—Ed.]

† [*Anteà*, p. 31.—Ed.]

	Long. alæ.	Caudæ.		
P. andamanensis . .	3·56	3·75	♂ juv.	S. Andaman.
,, ,, . .	3·60	3·75	♀ adult.	,,
,, ,, . .	3·50	3·50	,,	,,
P. ardens	3·50	3	♂ adult.	Sumatra.
,, ,, ...	3·10	3·10	,,	Malacca.
,, ,, ...	3·18	3·37	,,	Marup (Borneo).

34. Pericrocotus peregrinus (Linn.), S. N. i. p. 342. no. 10, ♀, patr. incog. (1766).

"S. Andaman: ♂, bill and feet black; ♀, iris brown."

Not to be distinguished from continental examples.

35. Buchanga andamanensis (Tytler): Beavan, Ibis, 1867, p. 323. no. 42.

"S. Andaman, ♂ ♀."

A distinct species.

36. Dissemurus affinis (Tytler): Beavan, Ibis, 1867, p. 323. no. 43.

"S. Andaman: Jan. 12, ♂; 17, ♀; 18, ♀."

The Andaman *Dissemurus* possesses a short but distinct frontal crest, not so much developed as in the Malabar and Ceylon species, but more so than in the almost crestless Malaccan form. It is larger than either the Javan, Malaccan, or Malabar species, but smaller than all others, *D. brachyphorus*, of course, excepted.

37. Graucalus macei, Lesson, Tr. p. 349, "Bengal" (1831).

Grauculus nipalensis, Hodgs. Ind. Rev. 1837, p. 327, "Nipaul."

"S. Andaman: iris red; bill and feet black."

Ibis, 1873, p. 311.

Graucalus macei.

	Alæ.	Caudæ.	Tarsi	Rostr.	
*a, ♂?	7·37	6	1	0·75	Deyra Doon: full plumage; lores black; breast plumbeous; abdomen white, unstriated.
b, ♀?	6·86	6	1	0·75	Valley of Nepal: lores dark slate; breast plumbeous; upper part of abdomen and thigh-coverts barred.
c, ♂?	6·75	5·37	1	0·87	Tonghoo: like *a*.
d, ♀	6·50	5·65	1	0·75	Moulmein: lores slate; similar to *b*, but entire abdomen barred.
e	6·62	5·50	1	0·86	S. Andaman: identical with *a*.
f	6·62	5·50	1	0·86	† S. Andaman: identical with *a*.
g, ♀	6·62	5·50	1	0·80	S. Andaman: lores barely indicated; throat, breast, and thigh-coverts faintly striated; abdomen white.
h, ?	6·37	5·60	1	0·86	S. Andaman: either a young male or female; lores, chin, throat, breast, and thigh-coverts faintly striated; abdomen white.

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* Where the sex is not determined by the collector it is noted with doubt.

† This skin is marked by the collector as being that of a female; if correct, adult males and females do not differ.

Graucalus layardi.

	Alæ.	Caudæ.	Tarsi.	Rostr.	
i, ♂	6·37	5·75	1	0·87	Maunbhoom: similar to *a*, but the abdomen and thigh-coverts striated.
j, ♂ ?	6·60	5·50	1	0·87	Maunbhoom: lores intensely black; identical with *i*.
k, ?	6·30	5·25	1	0·75	Maunbhoom: lores dark slate; chin, throat, breast, abdomen, and thigh-coverts boldly marked with dark bars.
l, ?	6·12	5·60	1	0·75	Candeish: similar to *k*, but the bars not so decided.
m, ?	6	4·75	0·87	0·75	Coorg: similar to *k*.
n, ?	5·67	4·50	0·87	0·75	Ceylon: similar to *k*.
o, ♂ ?	6·66	5·50	1	0·75	Southern India: identical with *i*.
p, ♂?	6	5	0·87		Coorg: identical with *i*.

The dimensions of the four Andaman individuals in the collection are less than those of *G. macei* from Northern India, about equal with those of the same species from Burma, and greater than in so-called *G. layardi* of Central and Southern India and Ceylon. Of the specific distinction of the last-named species I am not yet quite satisfied, the question mainly turning upon whether the adult male (and female?) always has the upper part of the abdominal region barred instead of pure white. Ibis, 1873, p. 312.

38. Graucalus dobsoni, Ball, J. A. S. B. 1872, p. 281. no. 23, "Andamans."

"S. Andaman: ♀, iris lake; bill and feet black."

An excellent species; perfectly distinct from *G. concretus*, Hartl., and *G. striatus* (Bodd.), The example, sent as a female, has the entire under plumage barred across. A second individual not sexed, has the chin, throat, and upper breast uniform plumbeous. Seen from below it recalls the beautiful *G. lineatus* (Swains.) = *G. swainsoni*, Gould; but the dark bands are not as decided and well defined, nor so intensely black as in the Australian species. In all other characters it entirely differs.

39. ? Arachnechthra flammaxillaris (Blyth), J. A. S. B. 1845, p. 557.

Arachnechthra frenata, Ball, Str. Feath. i. p. 65 (*nec* S. Müller).

"S. Andaman, Jan. 3, ♀; 18, ♀."

Two female examples of an *Arachnechthra* are in Mr. Ramsay's collection, but unfortunately no males. Provisionally I refer them to the well-known Burmese species, as Mr. Ball's description (*l. c.*) of the male agrees best with that Sun-bird. That gentleman states that in all the male specimens "there are more or less distinct traces of a maroon pectoral band," which character is at once decisive against their belonging to *A. frenata*. With Tenasserim examples of *A. flammaxillaris* ♀ these Andaman individuals fairly agree.

40. Corvus levaillantii, Lesson, Tr. p. 328, "Bengale" (1831); Pucheran, Rev. Mag. Zool. 1853, p. 547.

Corvus culminatus, Sykes, P. Z. S. 1832, p. 96, "Dukhun."

"S. Andaman, Jan. 1, ♀."

Ibis, 1873, p. 313. The only example, a female in full plumage, sent by Mr. Ramsay does not differ in colouring from the Indian bird; but the dimensions of the wings and tail are less, while those of the bill and tarsus are about equal. Wing 10·37; tail 7; tarsus 2·25; bill from forehead, in a straight line, 2·36.

41. ACRIDOTHERES TRISTIS (Linn.), S. N. i. p. 166. no. 3 (1766).

"Ross Island."

Introduced by Colonel Tytler (Ibis, 1867, p. 329).

42. STURNIA ANDAMANENSIS. (Plate XII. fig. 2, *in orig.*)

Temenuchus andamanensis, Tytler: Beavan, Ibis, 1867, p. 329. no. 67.

"S. Andaman: ♀, iris white; bill and legs gamboge; base of mandible bluish slate."

43. EULABES ANDAMANENSIS, Tytler: Beavan, Ibis, 1867, p. 331. no. 71, "Andamans."

Eulabes intermedia (A. Hay), apud Ball, Str. Feath. i. p. 77. no. 89.

"S. Andaman, January: ♂ ♀, iris dark brown; lobes, legs, and feet orange; bill vermilion, yellow at tip. A young bird, not sexed; lobes, legs, and feet yellow."

No difference to be observed between the sexes. A series of eight examples confirms my opinion that Colonel Tytler was justified in separating the Andaman *Eulabes* from the Indian *E. intermedia*. Whether it can only rank as a "geographical race of the same species," must depend on the sense in which that elastic phrase is applied.

44. ? OSMOTRERON CHLOROPTERA (Blyth), J. A. S. B. 1845, p. 852, "Nicobars."

"S. Andaman: iris red; bill at base greenish slate, at point greenish white."

A single example, unfortunately not sexed, of a large species of *Osmotreron*. I provisionally identify it with the Nicobar form, which I have never seen. Crown beautiful French grey, very pale on the forehead, and shading darker on the occiput. Under tail-coverts pale creamy white, broadly centred with light green. Wing nearly seven inches.

Ibis, 1873, p. 314. 45. CARPOPHAGA ÆNEA (Linn.), S. N. i. p. 283 (1776), ex Briss.

Palumbus moluccensis, Briss. Orn. i. p. 148, "*ex Moluccis insulis.*"

Columba sylvatica, Tickell, J. A. S. B. 1832, p. 581, "Jungles of Borabhúm and Dholbhúm."

"S. Andaman: ♀, iris brown; eyelids with a red margin; feet and legs pink."

Seven examples, all killed in the month of January, and identical with Indian. I have elsewhere shown that Indian, Ceylon, Burmese, Javan, Bornean, and even Philippine individuals cannot well be specifically separated. Young birds in this species appear to have the under tail-coverts of a lighter shade than adults.

	Alæ.	Caudæ.	
a, ?	9	6·50	Sides of head, breast, and abdomen pale bluish grey intensely suffused with vinous; ventral region and thigh-coverts pure grey; on the nape a triangular chocolate-brown mark; throat pure white.
b, ♂	9·25	6·65	Similar to *a*, but without the nuchal mark: chin, throat, and forehead pure white.
c, ♀	9	6·37	Similar to *b*, but the vinous shade on the breast not so intense; total length in the flesh 15·50.
d, ♀	9·25	6·25	Identical with *c*; length in the flesh 15·50.
e, ♀	9	6·25	Identical with *c* and *d*.
f, ?	8·50	5·67	Grey plumage without a tinge of vinous, ashy rather than bluish grey; under tail-coverts light chestnut; green plumage brilliant. A young bird?
g, ?	9	6·50	Similar to *f*.

46. ? Macropygia rufipennis, Blyth, J. A. S. B. 1846, p. 371, "Southern Nicobar;" Ball, *op. cit.* 1872, p. 287. no. 47, "Andamans."

"S. Andaman: ♂, bill, legs, and feet purplish pink: December and January."

The Nicobar and Andaman birds have yet to be compared. Von Pelzeln (Voy. Novara, Vög. p. 109) describes the iris in the Nicobar *Macropygia* as being white surrounded by cherry-red, the bill chestnut-brown, the feet dark violet-red, and the claws dark brown. From Mr. Blyth's original description (*l. c.*) it is to be inferred that in the Nicobar bird the feathers of the under surface are not transversely striated, in fact that it is a representative form of *M. phasianella.* Ibis, 1873, p. 315. But the Andaman *Macropygia*, which is represented in the collection by seven examples, differs from *M. phasianella* in having the head bright rufous, and not cinereous shaded with violet—in the nape and interscapulary region being clothed with rufous feathers very finely marked with black, more evident in some individuals than in others, and not pure coppery green or violet as in the Australian species—and in the feathers of the pectoral and abdominal region being traversed by distinct dark brown narrow lines, whereas in *M. phasianella*, as in *M. tenuirostris*, *M. emiliana*, and others of that group, the plumage of the under surface is uniform, without a trace of striation, at least in the adult males. It is therefore just possible that the Andaman is a species distinct from the Nicobar. *M. leptogrammica*, ex Java, is nothing but a miniature form of *M. tusalia*: the wing measures 6·75 inches as against 8, and the tail 7·75 as against 9·25. *M. amboinensis* (L.) vera has the lower plumage of *M. leptogrammica* and the upper of *M. phasianella.*

47. Ianthœnas palumboides. (Plate XIII. *in orig.*)

Carpophaga palumboides, Hume, Str. Feath. i. p. 302, "Port Mouat" (1873).

"S. Andaman: ♂, iris reddish yellow; feet pink, claws white; bill pinkish lilac at base and white at tip; length 16 inches."

Classed by Mr. Hume as a *Carpophaga*, but clearly belonging to the *Columbidæ.* It has twelve rectrices.

48. Chalcophaps indicus (Linn.), S. N. i. p. 284. no. 29 (1766).

"S. Andaman: ♂, bill reddish brown; legs and feet purplish pink."

One male in perfect (?), one in imperfect plumage, and one female in the collection; shot in January. The male, although apparently in full plumage, wants the broad bluish-grey stripe descending from the crown to the interscapulars, which is present in Ceylon, Malabar, Malaccan, Javan, and Philippine individuals. Is this peculiar to the nuptial dress? Ibis, 1873, p. 316.

49. Charadrius fulvus, Gm. S. N. i. p. 687 (1788).

"S. Andaman: ♂, Dec. 18; not sexed, Dec. 21."

In winter plumage.

50. Ægialitis curonica (Gm.), S. N. i. p. 692. no. 29 (1788), ex Beseke, Schr. der Gesellschaft naturf. Freunde z. Berlin, vii. p. 464. no. 49 (1787).

"S. Andaman: Jan. 7, ♂; Feb. 4: iris brown; legs and feet orange; bill brown."

Two individuals in non-breeding plumage. I have never met with examples of this European bird from Southern Asia in full breeding-dress. Burgess (P. Z. S. 1855, p. 80) states that he believes the egg he described belonged to *Charadrius minor*, and that, if so, that bird breeds in the Deccan in the month of April. But *C. minor*, ap. Burgess (*l. c.*), is probably the *Æ. minuta* (Pallas), ap. Jerd. no. 850. On the other hand, I have never seen adult Indian specimens of the small Indian Ring-Plover (*Æ. minuta*, ap. Jerd.), except in full or nearly full summer plumage. The correct title of this smaller species cannot be determined until it is ascertained whether *Æ. curonica* ever occurs in Luzon in full breeding-plumage. If it does not, *Æ. dubia* (Scop.) will be the oldest title for the smaller species. If it does, and the smaller species is also found to occur in Luzon in breeding-plumage, then Sonnerat's bird must remain for ever undeterminable. The title of *curonicus* was given by Gmelin to a bird which Beseke (*l. c.*) described from a drawing, but on which he bestowed no title.

51. Ægialitis geoffroyi (Wagler), Syst. Av. *Charadrius*, no. 19, "Pondicherry, Java" (1827).

"S. Andaman, Jan. 20, 24: ♀, iris dark brown; legs and feet green; bill dark brown."

In winter plumage. Two examples, one sexed as being a female, with the whole under surface unsullied white. A third (♀, as sexed) with a broad ashy-brown pectoral band.

Ibis, 1873, p. 317. 52. Ægialitis mongola (Pallas), Reise Russ. Reich. iii. p. 700. no. 29 (1766).

"S. Andaman: Jan. 7, ♀; 24, ♂ ♀; 27, ♀; iris (in both sexes) dark brown; legs and feet ashy green; bill dark brown."

In winter plumage.

53. Strepsilas interpres (Linn.).

"S. Andaman, Feb. 1, ♂."

54. Gallicrex cinereus (Gm.), S. N. i. p. 702. no. 20 (1788), ex Lath.

Gallinula cristata, Lath. Ind. Orn. ii. p. 773. no. 23 (1790), ex Lath.

Crested Gallinule, Lath. Syn. v. p. 267. no. 22, "China?"

"S. Andaman, Dec. 15: ♀, iris brown; legs and bill olive-green."

55. Numenius phæopus (Linn.), S. N. i. p. 243 (1766).

"S. Andaman, Jan. 3."

56. Actitis hypoleuca (Linn.), S. N. i. p. 250 (1766).

"Ross Island, Dec. 15, ♀; S. Andaman, Jan. 3, ♀, 29, ♀."

57. Actitis glareola (Gm.), S. N. i. p. 677. no. 21 (1788).

"S. Andaman: Dec. 31, ♂; Jan. 22, ♂: legs and feet yellowish green; bill dark brown." Winter plumage.

58. Tringa albescens, Temm. Pl. Col. 41. fig. 2, "l'Océanie" (1823).

"S. Andaman, Jan. 24: iris dark brown; bill black; legs and feet greenish black."

In winter plumage. Mr. Harting inclines to the opinion that *T. ruficollis*, Pallas (Reise. iii. p. 700. no. 31, 1776), is this species in full breeding-plumage, relying on the expression "subtus collum totum ad pectus usque intense ferrugineum." *T. salina*, Pallas (Zoogr. ii. p. 199. no. 309), Mr. Harting identifies with *T. subminuta*, v. Middendorff. Of that species Pallas says, "Jugulum ferrugineo-nebulosum album, punctis fuscis, in masculo crebrioribus; reliqua subtus alba." Mr. Harting's hypothesis can only be maintained on the assumption that Pallas described examples of two distinct species in the full belief that they belonged to one and the same. For Pallas (Zoogr. *l. c.*) identifies *T. salina* with the *T. ruficollis* of his earlier work, although, curiously enough, he attributes the title of *ruficollis* to Latham, the English author having only borrowed that title and the description from Pallas. It may be here observed that the Japanese specimen mentioned by Mr. Sharpe (Dresser's Birds of Eur. *T. minuta*, p. 5) as being *T. albescens* is nothing but *T. minuta*. Ibis, 1873, p. 318.

59. Gallinago stenura (Kuhl), Bp. Annali di Storia Naturale, Bologna, iii. fasc. 14, "Sunda Islands" (1830); Isis, 1833, p. 1077.

"S. Andaman: ♂, Dec. 19, 23, 27; ♂, Feb. 5: iris bright brown; legs and feet greyish horn-colour; bill, basal half light horn, remainder brown: ♀, Feb. 6; iris brown; legs and feet pale green; bill light horn, remainder brown. Port Mouat, ♀, Feb. 5: iris bright brown; legs and feet greyish green."

60. Demiegretta sacra (Gm.), S, N. i. p. 640 (1788), ex Lath. Synop. v. p. 92, "Otaheite."

Demiegretta concolor, Blyth, J. A. S. B. 1846, p. 372, "Arracan, Nicobars."

Herodias andamanensis, Tytler: Beavan, Ibis, 1867, p. 333, "Andamans."

Herodias concolor (Blyth), Ball, Str. Feath. i. p. 87. no. 122.

Demiegretta greyi, G. R. Gray, *ap.* Hume, *op. cit.* p. 307.

"Ross Island, Dec. 20, Feb. 4: iris pale yellow; bill brown, mandible tinged with yellowish green; legs bright green, soles yellow."

Moulting from ferruginous brown into uniform ash-colour, a narrow white line extending from the chin down the neck for about one and three quarters of an inch.

It has recently been asserted by Mr. Hume (Str. Feath. i. p. 254) that the *Ardea asha*

Sykes (P. Z. S. 1832, p. 157, "Dukhun"), and the species described by Dr. Jerdon (Birds of India, iii. p. 747) belong to *Ardea gularis*, Bosc (Actes de la Société d'Hist. Nat. de Paris, i. Ibis, 1873, p. 319. pt. i. p. 4, pl. 2, "Senegal," 1792[*]), the well-known Madagascar and tropical African form, and not to *Ardea sacra*, Gm.,=*A. jugularis*, Forst. (Wagler, Syst. Av.). Mr. Hume, in his valuable paper on the ornithology of Sindh (*l. c.*), states that he observed the African species at Muscat, along the Mekran coast, at Kurrachee, and on the Bombay coast at Teetul. As Sykes does not mention the characteristic white cheeks of *A. gularis*, nor give the wing and tarsal dimensions, and as I have never seen Deccan individuals, nor Sykes's type, I cannot venture to assert with any confidence which of the two species migrates to the Deccan; and the question must remain open until Deccan examples have been examined. The dimensions given by Dr. Jerdon are nearer those of the African bird; but his description, while sufficient for *A. sacra*, will not apply to *A. gularis*; for he likewise omits all mention of the white cheeks. The species identified by Mr. Blyth on all occasions as *A. asha*, Sykes, seems to have been the African bird. For instance (Cat. Calc. Mus. no. 1642), its range is stated to be the "peninsula of India and Sindh, nec (?) lower Bengal." Later (J. A. S. B. 1855, p. 264) that author identified *A. asha*, Sykes, with *A. gularis*, Bosc, and also doubtfully with *H. pannosa*, Gould. And Mr. Blyth states (Ibis, 1865, p. 38) the range to be South India and Ceylon. The Ceylonese bird has long since been identified by Von Pelzeln, in his exhaustive article on the general subject (Novara Exp. *Aves*, p. 122), as belonging to *Ardea schistacea*, Hempr. and Ehrenb.,=*A. gularis*, Bosc; and Mr. Blanford (Geol. Zool. Abyssinia, p. 435. no. 270, 1870) mentions that he had compared an Abyssinian example with Indian specimens in the Calcutta museum, and that there can be no question of their identity.

Mr. Blyth, having some time previously detected the differences which distinguish Arracan Ibis, 1873, p. 320. examples of the Demiegret from those he had identified as belonging to *Ardea asha*, Sykes, on receiving similar individuals from the Nicobars, described it under the name of *Demiegretta concolor* (*l. c.*), the chief differences he relied on being the shorter tarsus and the absence or almost entire absence of white about the throat. Subsequently Colonel Tytler named the Andaman bird *Herodias andamanensis* (*l. c.*); and this, Mr. Blyth (Ibis, 1868, p. 133) identified with his *D. concolor*, a species, he added, which he had never seen in white plumage.

The two examples obtained by Mr. Ramsay agree perfectly with Malaccan and Celebesian individuals, and fall therefore under true *Ardea sacra*, Gm. But according to Von Pelzeln (*l. c.*), *D. concolor* is a good and distinct species, and inhabits the Nicobars as well as *D. jugularis*(=*sacra*, Gm.). Of this last the Novara Expedition obtained one Nicobar example, which Von Pelzeln correlates with two from Tahiti and two from Panypet, together with three from the Carolines, one from the East Indies, and one from Java, in the Berlin museum. Of *D. concolor*, the same expedition obtained at the Nicobars, and there only, three individuals (♀) in adult plumage, two in dark plumage, with white throat, and one in snow-white dress. Dr. Finsch (Orn. Central-

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[*] Only the first part of this work, edited by Aubin-Louis Millin, and published in "l'an quatrième de la liberté," appeared. It consists, in addition to an introductory discourse by the editor, of 129 pages of letterpress, embracing many branches of natural history, and 13 plates. Of birds it contains the description of *A. gularis* by Bosc and of *Buceros africanus* by Geoffroy, fils, and also a catalogue by MM. Richard and Bernard of birds collected in Cayenne by M. Blond.

Polyn. p. 206) does not admit the specific distinction of the Nicobar examples, and states that examples from Amboina are nearly as small as those included by Von Pelzeln under *D. concolor*.

	Wing.	Tail.	Tarsus.	Middle toe without nail.	Bill from forehead.	Bill from gape.	
D. sacra	10·50	4	2·75	2	3·25	4	Ross Island, Dec. 20: partly developed dorsal train.
,, ,, ...	9·75	3·50	2·35	1·75	2·89	3·37	Ross Island, Feb. 4: ditto.
,, ,, ...	10·50	3·88	2·75	2	3	3·66	Malacca, August: uniform ash-colour; throat-streak as above; no dorsal train.
,, ,, ...	10·50	3·75	2·75	2	3	3·60	Malacca, Sept.: ditto.
,, ,, ...	10·25	3·50	2·63	1·87	3	3·63	Celebes: ditto.
D. gularis	11	4	4	2·37	3·95	4·37	♀, Massuah, Aug. 24: full crest and dorsal train; uniform slate-colour; chin, cheeks, and throat white.

61. Butorides javanicus (Horsf.), Tr. Linn. Soc. xiii. p. 190, "Java" (1820). Ibis, 1873, p. 321.

"S. Andaman, Feb. 4: ♀, iris yellow; legs and feet dark green; soles of feet yellow."

A single example. Does not differ from Indian individuals.

62. Mareca gibberifrons, S. Müller, Verhand. p. 159, "Celebes" (1839–44); Walden, Tr. Zool. Soc. viii. p. 102*.

Querquedula andamanensis, Tytler, Ibis, 1867, p. 333. no. 89, sine descr.

? *Mareca punctata*, Cuv.: Ball, J. A. S. B. 1872, p. 290. no. 62, "Andamans;" Str. Feath. i. p. 88.

Mareca albogularis, Hume, Str. Feath. i. p. 303, "Andamans" (1873).

"S. Andaman, ♂ ♀, February; iris brown; bill plumbeous; legs and feet greenish: ♀, January.

The collection contains three males and two females. One, a female, is absolutely identical with an authentic Celebesian example. While equal in dimensions with Timor examples, they all somewhat exceed in size Celebesian individuals, which, as is well known, are generally smaller than the races that inhabit other areas.

[*Anteà*, p. 201.—Ed.]

A. M. N. H. ser.4.vol.xii. p. 487. *Descriptions of three new Species of Asiatic Birds.* By ARTHUR, Viscount WALDEN, P.Z.S., F.R.S., &c. [From the 'Annals and Magazine of Natural History,' ser. 4, vol. xii., December 1873.]

ALCEDO RUFIGASTRA, n. sp.

Chin and throat creamy white, washed faintly with rufous; remainder of under surface, the under tail-coverts, and wing-coverts deep bright rufous; spot before the eye rufous, paler in some than in others; feathers of the head black, with a penultimate bright blue band, those of the cheeks all bright blue; back and upper tail-coverts bright blue; wing-coverts black, washed with blue, each feather tipped with bright blue; scapulars and rectrices black, washed with blue.

Wing 2·5 inches, tail 1·62, bill from nostril 1·37.

Described from three male examples obtained in the island of South Andaman by Lieutenant R. Wardlaw Ramsay.

This is a well-marked form, intermediate between *A. moluccensis* and *A. asiatica*. Above it nearly resembles the first; underneath it is undistinguishable from the last.

POMATORHINUS OCHRACEICEPS, n. sp.

A. M. N. H. ser.4.vol.xii. p. 488. Lores black; ear-coverts brown, washed with ochreous; supercilium (commencing at the base of the maxilla and reaching to the sides of the neck), chin, cheeks, throat, breast, and shoulder-edge pure unsullied white; crown and nape bright ochreous ferruginous; back and upper tail-coverts ochreous olive; wings when closed ochreous brown; middle rectrices brown, washed with ochreous, remainder with outer webs coloured like the middle pair; inner webs pure brown; the terminal portion of all the rectrices hardly tinged with ochreous; abdomen, flanks, thigh, and under tail-coverts ochreous brown, the ventral region exhibiting a brighter ferruginous tint; bill yellow, probably red in the fresh skin.

Wing 3·62 inches, tail 4·87, tarsus 1·25, bill from nostril (in a straight line) 1·00.

Hab. Karen Hills, Burma [*Lloyd*].

MUNIA FUMIGATA, n. sp.

Above dark brown, deeper on the head; rump white; quills above and externally deep brown, on the borders of the inner webs pale tawny rufous, most developed on the secondaries and tertiaries; tail jet-black, the middle pair of rectrices being slightly elongated; chin, throat, and cheeks concolorous with the head; ear-coverts brown, with pale edgings; breast, abdomen, and flanks dingy white, the breast-feathers with brown spots; thigh and under tail-coverts brown, with rusty margins.

Wing 2·00 inches, tail 1·75, tarsus 0·50.

Described from examples obtained by Lieut. R. Wardlaw Ramsay in the island of South Andaman. Nearly allied to *M. acuticauda*, Hodgs., but to be readily distinguished by the absence of pale shafts to the dorsal plumage.

1874.

Letter on Troglodytes punctatus, *Bl., from* Viscount WALDEN, P.Z.S., *to the* EDITOR *of* 'THE IBIS' (January 1874).

Ibis, 1874, p. 91.

Chislehurst, October 1873.

SIR,—In the year 1845 Mr. Blyth (J. A. S. B. xiv. p. 589) described a rare and beautiful species of the genus *Troglodytes*, Vieillot, from Darjeeling, and named it *T. punctatus*. As this title had been previously bestowed in 1823 by C. L. Brehm on the common Wren of Europe (Naturgesch. europ. Vögel. i. p. 318), I propose the name of *T. formosus* for the Darjeeling species.

I have the honour to remain,
Yours,
WALDEN.

Descriptions of two new Species of Birds. By ARTHUR, Viscount WALDEN, P.Z.S., F.R.S., &c. [From the 'Annals and Magazine of Natural History,' ser. 4, vol. xiii., February 1874.]

A. M. N. H. ser.4, vol.xiii. p. 123.

PELARGOPSIS GIGANTEA, n. sp.

Head, nape, chin, cheeks, back and sides of the neck, flanks, under tail-coverts, and entire under surface white, washed more or less with dilute fulvous, the concealed parts of the feathers being pure white and their exposed parts being tinged with fulvous; this hue is deepest on the flanks, breast, and on the abdominal and ventral regions, and on the under tail-coverts; crown nearly pure white; middle and lower part of the back rich pale glistening turquoise-blue; outer edges of primaries and secondaries, and all the tertiaries and scapulars, dingy bluish green; middle pair of rectrices above entirely, and lateral pairs on their outer webs, of a purer blue; under wing-coverts and axillaries fulvous, somewhat deeper than that of the flanks; bill coral-red; feet red.

Bill from forehead 3·25 inches, wing 6·62, tail 4·50, tarsus 0·88, middle toe 1·50.

Obtained at Salok, Sulu Islands, near Borneo, by Dr. Bernhard Meyer.

SCOPS MODESTA, n. sp.

A. M. N. H. ser.4, vol.xiii. p. 124.

Stiff loral bristles pure white at base, some tipped with fulvous, some with dark brown or black; those of the chin pale fulvous, nearly white; over each eye a distinct broad whitish band, formed by pure white feathers narrowly tipped with yellowish brown, which again in most is narrowly fringed with black, some nearest the eyes also edged throughout their length with yellowish brown; feathers of the head and nape pale yellowish rusty, each traversed by three or four narrow irregular light brown lines; interscapulars and feathers of the back and rump coloured and marked like the plumage of the head and nape, but the brown transverse bands are broader and fewer; scapulars the same, but a few more or less pure white, mottled towards the tip with the prevailing tints; ear-coverts and cheeks principally white, with brown and ruddy fulvous markings; throat-feathers albescent, with one or more narrow brown cross bands; a half-collar below the throat of feathers marked and coloured like those of the nape; breast-feathers tipped with brown, a subterminal band of pale fulvous, then a brown band followed by a much broader pure white band; abdominal feathers white, tipped with an irregular ocellated mark centred with pale rusty fulvous and encircled with brown, then a broad white band with a basal and narrower brown band; in many of the abdominal feathers the ocellated markings are replaced by an irregular cross band of mixed fulvous and brown; under tail-coverts white, with faint subterminal fulvous-brown bands; tarsus clothed with white feathers, faintly barred with pale brown; ground-colour of the primaries and secondaries brown, each quill traversed by three or more pale rufo-fulvous narrow bands more or less complete, the brown intervals towards the apices of the primaries and on their outer webs much freckled with rufo-fulvous; on the outer web of the second, third, and fourth primaries the pale rufo-fulvous bands change to fulvous white or pure white; under wing-coverts greyish white; median rectrices marked and coloured like the apices of the primaries, lateral with clear rufo-fulvous bands running through, all tipped, like the median shoulder-edge, white. Tarsi feathered to within an eighth of an inch of the base of the toes; fourth and fifth quills equal, third slightly longer than sixth.

Wing 4·75 inches, tail 2·37, tarsus 1·0, middle toe with nail 1·12, bill from nostril (in a straight line) 0·65.

Two examples of this small plain-coloured Scops Owl were obtained near Port Blair, South Andaman, by Captain R. Wimberley.

Ibis, 1874, p. 127. *On a further Collection of Birds made by* Lieut. Robert Wardlaw Ramsay, F.Z.S., *in the Andaman Islands.* By Arthur, Viscount Walden, P.Z.S., F.R.S. [From 'The Ibis,' April 1874, Plates IV.–VI. *in. orig.*]

Since publishing my notes (Ibis, 1873, pp. 296–321)* on a collection of birds made in the Andamans by Lieutenant Wardlaw Ramsay, that gentleman has kindly sent to me a large number of specimens from the same locality, the fruits of about two months' indefatigable exertion. They include thirty-nine species additional to those contained in his first consignment. These I propose to notice in the following pages, while in a future number of 'The Ibis' I hope to be able to lay before its readers a complete list of the species known to inhabit the Andaman archipelago, together with some further remarks on some of the species mentioned in my former paper.

Besides the rich series of specimens collected by Lieutenant Wardlaw Ramsay, I have had the advantage of being able to examine a valuable collection made in the same islands by Captain Wimberley. This gentleman has sent home the first specimens known in Europe of *Ninox affinis*, Tytler, an excellent species; and he has also forwarded a numerous series of *Spilornis elgini*, which leaves no doubt of the validity of that species as distinguished from *S. bacha*—an opinion in which I believe I am entitled to say that Mr. J. H. Gurney concurs.

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* [*Anteà*, pp. 235–251.—Ed.]

63. Limnaetus andamanensis (Tytler), P. A. S. B. 1865, p. 112, "Port Blair, Andamans."

Spizaetus andamanensis, Tytler: Beavan, Ibis, 1867, p. 315. no. 6; Hume, Scrap Book, p. 203 (1869).

"S. Andaman, April 15; ♂, bill slaty horn-colour; cere greenish; iris amber; toes dirty yellow."

Lower surface from chin to vent pure white, the terminal portion of most of the feathers being centred with rich brown, imparting a streaked appearance to this portion of the plumage, a distinct brown line descending from the chin to the breast. Under tail-coverts and axillaries pale dingy ferruginous brown, irregularly barred with white. The elongated flank-plumes covering the thighs white, terminated and blotched with pale ferruginous brown. Thigh-coverts pale ferruginous brown, those of the tarsus white, here and there speckled with brown. Head and nape clothed with lanceolate feathers, white at their base, the terminal and exposed portion of each centred with dark brown and margined with ferruginous. No crest-plumes. Remainder of upper plumage dark brown, each feather with more or less of paler marginal shading. Upper surface of rectrices the same. Middle pair with four narrow ill-defined but very dark brown transverse bars, and a broad terminal dark brown band fringed with albescent. The rectrices underneath albescent, the brown bands strongly contrasting. Under wing-coverts white, irregularly but boldly banded with dark brown. Quills underneath albescent, with three or four dark brown transverse bands and tipped with the same colour. Basal half of the quills almost pure white. Quills above, when closed, dark brown. Ibis, 1874, p. 128.

Wing 13·24 inches; tarsus 3·6; tail 10·4; bill from gape 1·7; total length 21·8 (in the flesh).

This Eagle is a crestless form of *L. ceylonensis* (Gm.)* and of *L. cirrhatus* (Gm.). The specimen above described is absolutely identical in plumage with a Candeish example of *L. cirrhatus.* It cannot be confounded with *L. alboniger* (Blyth) in any stage of plumage; for the adolescent plumage in that species is of a uniform buff, and when older, but before it has put on its handsome full dress of black and white, the markings are ferruginous buff, and not brown. But the best differentiating character of *L. alboniger* is to be found in the first joint of the middle toe being feathered for full half its length,—a character it has in common with the much larger *L. nipalensis,* and which is also possessed to a less extent by the Celebesian representative form of that species, *L. lanceolatus.*

64. Haliaetus leucogaster (Gm.), S. N. i. p. 257. no. 43 (1788). Ibis, 1874, p. 129.

"Macpherson Straits, S. Andaman, March 5: bill dark slate; legs dirty white; iris yellowish grey."

A young male in first plumage.

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* Probably =*Spizaetus sphinx*, Hume, Str. Feath. i. p. 321.

65. Scops modestus, Walden, Ann. & Mag. N. H. (4) xiii. p. 123*, "Port Blair, S. Andaman" Feb. 1874).

Distinguishable from all the other described Asiatic species of the genus by its sober colours and plain markings, and, with the exception of *Scops mantis*, by its diminutive size.

66. Ninox obscurus. (Plate IV. *in orig.*)

Ninox obscurus, Hume, Str. Feath. i. p. 11, "Nicobars, near Camorta" (Nov. 1872); Ball, *tom. cit.* p. 55 (Feb. 1873).

Ninox, sp. ?, Ball, J. A. S. B. 1870, p. 240, "Port Mouat."

"South Andaman, ♂, March 1: iris bright yellow; legs pale yellow; maxilla dark brown; culmen and mandible greenish slate."

The fourth primary in this example slightly exceeds the third and is the longest; the third exceeds the fifth. Dimensions in the flesh: total length 11·10 inches; wing 9·0 [?]; tail 5·15. The stiff bristles which arm the sides of the toes are dark brown.

67. Ninox affinis. (Plate V. *in orig.*)

Ninox affinis, Tytler: Beavan, Ibis, 1867, p. 316. no. 10, "Aberdeen Point, Port Blair;" Hume, Scrap Book, p. 421 (1869).

? *Athene hirsuta* (Temm.), v. Pelzeln, Novara Exp. *Aves*, p. 26, "Kondul Island, Nicobars" (1865).

? *Ninox hirsuta* (Temm.), Ball, Str. Feath. i. p. 54. no. 10, "Nicobars" (Feb. 1873).

"Port Blair, S. Andaman: ♂, May 31, colour of eye pale blue (?), feet pale yellow; ♂, July 17; ♀, Aug. 8." (*Wimberley.*)

Readily distinguishable from *N. hirsutus* of Ceylon, India, and Burma, and the smaller race, *N. malaccensis*, of the Malay peninsula by its much inferior dimensions, the more cinereous colouring of the head and nape, by the concealed spots or bars on the scapulars being pale rufous or fulvous (not pure white), and by the abdominal feathers being dark-centred and then bright rufous, with white edges only and not barred through with white. In *N. hirsutus* and *N. malaccensis* the abdominal feathers are traversed by a broad pure white bar and terminated by a bold brown (in some a rufous brown), not bright rufous, drop. *N. borneensis* resembles *N. malaccensis* in general colouring above, and has also the scapulars spotted with pure white and the abdominal feathers crossed by a white band; but the terminal drop of each feather is larger and bright rufous, not brown. *Ninox affinis* has five caudal bands. It has a longer tail and a shorter wing than *N. borneensis*.

Ibis, 1874, p. 130.

Until examples of the Sumatran *Ninox* can be compared, the Malaccan species must retain the title of *N. malaccensis* (Eyton). This last will probably prove to be identical with the Sumatran, and have to take the title of *N. scutulatus* (Raffles); or this Andaman species may be the same as the Sumatran.

A. hirsuta (Temm.), v. Pelzeln (*l. c.*), is undeterminable, as neither of the two examples, captured in an island of the Nicobars, was brought to Europe. Mr. Ball also mentions (*l. c.*) an example of a *Ninox*, received by him from the Nicobars, which, he says, sufficiently well agrees with Temminck's plate and description of *N. hirsutus*; but he does not absolutely identify it with that common and well-known species; nor does Mr. Hume (Str. Feath. p. 12), to whom the specimen was sent, speak decidedly. The dimensions given by Mr. Ball (*l. c.*) are much too large for *N. affinis*; and this, taken together with the fact that both that gentleman and Herr v. Pelzeln identified these Nicobar individuals with *N. hirsutus*, make it possibly probable that another form approaching the Malayan species does occur in that group of islands; for the dimensions stated by Mr. Ball (wing 8, tail 5) are too large for even *N. malaccensis*. It may be here repeated that the title of *hirsuta* was bestowed by Temminck on the Ceylon Hawk-Owl, and that of *scutulata*, Raffles, was given to the Sumatran.

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* [*Anteà*, p. 253.—Ed.]

In *N. affinis* the fourth quill is the longest, and the fifth slightly exceeds the third. Ibis, 1874, p. 131.

	Longitudo		
	Alæ.	Caudæ.	
N. affinis, ♂ . . .	6·62	4·75	Port Blair; five caudal bands.
,, ,, . . .	6·62	4·62	,, ,, ,,
,, ♀ . . .	6·75	4·75	,, ,, ,,
*N. borneensis** . .	7·12	4·50	Marup, N. Borneo; four caudal bands.

68. Caprimulgus macrurus, Horsf. Tr. L. S. xiii. p. 142, "Java" (1820).

"S. Andaman: March 10, ♀, iris brown, bill black, legs and feet pinkish brown; April 22, bill dark brown above, below carneous, legs dingy vinous. Stewart Sound, Middle Andaman; April 3, bill horny brown, legs pinkish brown, iris dark brown."

"Port Blair, S. Andaman, June 17, July 28." (*Wimberley.*)

These five examples belong to a small race of the Javan long-winged Goatsucker. Perhaps they may claim to be regarded as belonging to a distinct species; for they are of a much darker colour above, in hue resembling *C. jotoka*, their markings are somewhat different, and the terminal white spots of the two outer pairs of rectrices are very much less developed, measuring only 1·37.

	Long. alæ.	Caudæ.
South Andaman, ♀	7·13	5·37
,, ,, ♀	7	5·25
Middle Andaman	7	5·25
Port Blair, ♀	7·12	5·50
,, ,, ♀	7	5·25
Java, ♂	7·37	6·25
Malacca, ♀	7·35	6
,, ♂	7·50	6·25

69. Hirundinapus giganteus (v. Hasselt), Temm. Pl. Col. 364, "Java" (1825).

Acanthylis giganteus (Temm.), Tytler in Blyth's Append. Mouat, Andaman Isl. p. 358. no. 17 (1863); Beavan, Ibis, 1867, p. 317. no. 13, "Ross Isl."

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* For dimensions of *N. hirsutus* and *N. scutulatus* (*malaccensis*), *cf.* Ibis, 1872, p. 365.

Ibis, 1874, p. 132. "South Andaman: ♀, April 15, iris brown, bill dark brown, legs fleshy purple."

"Port Blair, S. Andaman: June 13, 14, 23; July 2, 3, 15, 17, 23, 28." (*Wimberley.*)

With the exception of three individuals killed respectively April 15 and July 2 and 23, all the examples obtained have moulted the first primary, the new quill being developed one fourth, in others one third of its length only. The second primary also is not full-grown, being somewhat shorter than the third. The specimens obtained on July 2 and 23, although having fully developed primaries, are of adolescent birds, the crown being smoke-brown, hardly suffused with green, the whole lower surface being fuliginous, without any green gloss, no white indicated in the chin and throat, and the patch behind each nostril rather rusty brown than white. These adolescent examples agree well in all respects with Malaccan individuals in my collection, in which, however, the frontal patches are barely indicated. An Andaman bird, killed on June 23, in full plumage as regards its coloration, has the nostril-patches and chin almost pure white.

70. COLLOCALIA FRANCICA (Gm.), S. N. i. p. 1017. no. 15 (1788), ex Montbeillard.

La petite Hirondelle noire à croupion gris, Montbeillard, Hist. Nat. Ois. vi. p. 696, "Ile de France" (1779).

Esculent Swallow, Lath. Gen. Synop. Suppl. ii. p. 257. no. 1, pl. 135, "Sumatra" (1802); id. Gen. Hist. vii. p. 296. no. 18, pl. 112, "Sumatra" (1823).

Esculent Swallow, Stephens, Gen. Zool. x. p. 111, pl. 12 (1817), ex Latham.

"*Hirundo esculenta*, Osbeck"*, Horsf. Tr. L. S. xiii. p. 142, sp. 1, "Java" (1820).

Hirundo brevirostris, McClelland, P. Z. S. 1839, p. 155. no. 10, "Assam." Conf. Blyth, J. A. S. B. 1845, p. 548, note; *op. cit.* 1847, p. 119.

Ibis, 1874, p. 133. *Hirundo unicolor*, Jerdon, Madr. J. Sc. xi. p. 238, "Neilgherries" (1840).

Cypselus concolor, Blyth, J. A. S. B. 1842, p. 886, ex Jerdon.

Cypselus unicolor, Jerdon, *op. cit.* xiii. pt. i. p. 173, pt. ii. p. 144 (1844).

Collocalia nidifica, G. R. Gray: Gray & Mitch. Genera of Birds, i. p. 55. no. 2 (1844), ex Latham.

Collocalia unicolor (Jerdon), Blyth, *op. cit.* 1845, pp. 209, 212, "Darjeeling, Neilgherries."

? *Hemiprocne salangana*, Streubel, Isis, 1848, p. 368, "East Indies."

Collocalia nidifica (Lath.) †, Blyth, Cat. Calc. Mus. p. 86. no. 423, "Nilgiris, Ceylon, Sikim, Assam, Malay countries" (1849).

Collocalia nidifica, G. R. Gray: Horsf. & Moore, Cat. E. I. C. Mus. i. p. 98. no. 122 (1854).

Collocalia fuciphaga (Thunb.), Bp. C. R. xli. p. 977. no. 4 (1855); id. R. Z. 1855, p. 581. no. 4.

Collocalia esculenta (Lath.), Bernstein, Nov. Act. Ac. C. L. C. Nat. Cur. xxvi. p. 15, pl. 2. f. 3, 4, "Java" (1857).

Collocalia nidifica (Lath.), Bernstein, J. f. O. 1859, p. 118. no. 2, "Java, Sumatra, Borneo, Malacca."

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* There was no such title given by Osbeck; it first appears in the 'Faunula Sinensis,' of G. R. Forster, and was added by him to his English translation of the German translation by J. G. Georgi of the Swedish original by Osbeck. Forster merely employed the Linnean title.

† No such title was ever used by Latham.

Collocalia nidifica (Lath.), Jerdon, B. of India, i. p. 182. no. 103 (1862).

Collocalia fuciphaga (Thunb.), Wallace, P. Z. S. 1863, p. 384. no. 6.

Collocalia nidifica, G. R. Gray, Ann. & Mag. N. H. (3) xvii. p. 118, "Java, Sumatra, and other isl. E. archipel." (1866).

Collocalia innominata, Hume, Str. Feath. i. p. 294, "Andamans" (Feb. 1873).

Collocalia spodiopygia, Peale, Hume, *tom. cit.* p. 296, "Andamans."

Collocalia inexpectata, Hume, *l. c.*, "Andamans."

"S. Andaman: March 1, iris brown, bill black, legs brown, feet darker; March 24, ♂."

The large number of Andaman specimens I have been enabled to examine, collected by both Messrs. Wardlaw Ramsay and Wimberley, in no material respect differ from Sikim and Ceylon individuals; nor am I enabled to find any important character whereby they can be separated from Seychelles, Mauritius, or Réunion examples (*Hirundo francica*, Gm.).

Ibis, 1874, p. 134.

The dorsal feathers in all examples from the above-named localities have the tips of the basal portion of the webs pure white. This can only be detected by parting the feathers; for the overlapping terminal and exposed part of the dorsal feathers is uniform smoke-brown. The extent of white on the edging of the webs increases as the feathers descend the back, so that those which clothe the uropygium have more of the edges of their webs, both in length and breadth, coloured white. The result is that the white sometimes becomes partially exposed. In some of the shorter of the upper tail-coverts the white colour of the webs is still more developed, occasionally forming a conspicuous white edging; but no covert is entirely white, the tip and central part of each being of a varying shade of mouse-colour. It is thus that the albescent or pale mouse-coloured band on the rump observable in many examples of this species is produced; and it is frequently made more prominent in the dried skins by the mode of preparation of the specimens. In three examples of true *C. francica* from Mauritius and Réunion, kindly lent me by Professor Newton, a pale band is discernible; in another from the Seychelles it is absent. In a Ceylon individual in the collection of Mr. Holdsworth it is also entirely wanting. My Sikim specimens have the band as much developed as in those from Mauritius; Andaman birds are not to be distinguished, all of them exhibiting, more or less, a pale band on the rump. That there is a tendency in this section of the genus *Collocalia* to evolve a pure white band on the rump is shown in *C. troglodytes* and other more eastern species, in which we find it a permanent and well-determined character. But in none of the races of the species under notice does it appear to be stable, or sufficiently and constantly developed to make it a trustworthy differential character. In all other essential respects birds from the localities alluded to are identical; and I therefore adopt Gmelin's title as being the oldest.

Since writing on *Collocalia affinis* (Ibis, 1873, p. 302)* I have had an opportunity of comparing it with Horsfield's type specimen of *C. linchi*, and I find that it in no way differs. *Hirundo fuciphaga* was described by Thunberg from Javan examples; and I have no doubt whatever that Horsfield's *C. linchi*=*H. fuciphaga*, Thunb. The diagnosis of *H. fuciphaga*, ample in its details, applies in every respect to *C. linchi*; while the last phrase, "differt ab *H. esculenta* cauda tota atra immaculata," of itself marks the species; for with the exception of the white spots on the lateral rectrices, Moluccan *C. esculenta* (Linn.) is barely to be distinguished from Javan *C. linchi*. The synonymy of *C. fuciphaga* will therefore be as follows:—

Ibis, 1874, p. 135.

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* [*Anteà*, p. 239.—Ed.]

Collocalia (Hirundo) fuciphaga, Thunberg, Act. Holm. xxxiii. p. 151, pl. iv., "Java" (1772).

Hirundo fuciphaga, Thunb.: Horsf. Tr. L. S. xiii. p. 143. sp. 2, "Java" (1820).

Linchi Swallow, Latham, Gen. Hist. vii. p. 292 (1823), ex Horsf. *l. c.*

Collocalia fuciphaga (Thunb.), G. R. Gray & Mitch. Gen. Birds, i. p. 55. sp. 3 (1844); List Birds Brit. Mus. (*Fissirostres*), p. 21. sp. 2, "Java" (1848).

Collocalia esculenta (Linn.), Blyth, J. A. S. B. 1845, p. 212. sp. 2, "Malay coasts, Nicobar Islands."

Collocalia fuciphaga (Thunb.), Blyth, *tom. cit.* p. 548, note, "Nicobars, Java;" *op. cit.* 1846, pp. 22, 369, "Nicobars;" Cat. Calc. Mus. p. 86. no. 429, "Nicobars, Java" (1849).

Hemiprocne fucivora, Streubel, Isis, 1848, p. 369, "Ost-indien," ex Thunberg *.

Collocalia linchi, Horsf. & Moore, Cat. E. I. C. Mus. i. p. 100. no. 123, "Java" (1854); Bp. C. R. xli. p. 977. no. 3 (1855); id. R. Z. 1855, p. 581. no. 3.

Collocalia nidifica (Lath.), Bernst. Nov. Act. Ac. C. L. C. Nat. Cur. xxvi. p. 15, pl. 2. f. 5, 6, 7, 8, "Java" (1857).

Collocalia fuciphaga (Thunb.), Bernst. J. f. O. 1859, p. 119. no. 3, "Java."

Ibis, 1874, p. 136. *Collocalia linchi*, Horsf.: Bernst. *tom. cit.* p. 119. no. 4, "Nicobars."

Collocalia linchi, Horsf. & Moore: Wallace, P. Z. S. 1863, p. 384. no. 3, "Java, Malacca, Nicobar isl."

Collocalia linchi, Horsf. & Moore: v. Pelzeln, Reise Novara, *Aves*, p. 39, pl. ii. f. 2, pl. vi. f. 2, "Nicobars" (1865).

Collocalia linchi, Horsf.: G. R. Gray, Ann. & Mag. N. H. (3) xvii. p. 119, "Java, Malacca, Nicobar Isl., Mergui archipel." (1866).

Collocalia affinis, Tytler: Beavan, Ibis, 1867, p. 318, "Port Blair."

Collocalia linchi, Horsf. & Moore: Ball, Str. Feath. i. p. 55. no. 16.

Collocalia affinis, Tytler: Walden, Ibis, 1873, p. 302. no. 15. [*Anteà*, p. 239.]

71. ALCEDO RUFIGASTRA, Walden, Ann. N. H. (4) xii. p. 487, "S. Andamans" (Dec. 1873). [*Anteà*, p. 252.]

? *Alcedo meningting*, Horsf.: Beavan, Ibis, 1867, p. 319. no. 24.

? *Alcedo asiatica*, Sw.: Ball, J. A. S. B. 1872, p. 277. no. 7.

"S. Andaman: Feb. 26, ♂, iris brown, bill dark brown, reddish at base, legs bright coral-red; April 12, ♂."

These examples are identical with the specimen alluded to by Mr. Sharpe under *A. asiatica* (Alcedinidæ, p. 34) in my collection, and labelled by Captain Beavan "*A. bengalensis*, Maunbhoom, Feb. 1863." The species does not appear to have been again obtained on the continent; and it is not unlikely that the specimen noted from Maunbhoom actually formed part of Captain Beavan's Andaman collection, and accidentally became mixed with his Maunbhoom specimens.

72. PELARGOPSIS BURMANICA, Sharpe, P. Z. S. 1870, p. 67; Alcedinidæ, p. 109, pl. 35.

Halcyon capensis (Linn.), Walden, P. Z. S. 1866, p. 553, "Andamans." [*Anteà*, p. 30.]

"S. Andaman: ♂, iris brown, bill vermilion, legs lighter vermilion; ♀, iris brown, bill, legs, and feet deep red throughout."

Ibis, 1874, p. 137. Four examples were obtained, and perfectly agree with Burmese individuals.

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* Streubel altered the name of *fuciphaga*, Thunb., to *fucivora*, on account of its hybrid construction.

73. Ceyx tridactyla (Pallas), Spic. Zool. fasc. vi. p. 10, pl. 11. f. 1 (1769).

"S. Andaman, April 21: bill and legs bright coral-red."

74. Chrysococcyx xanthorhynchus (Horsf.), Tr. L. S. xiii. p. 179, "Java" (1821); Zool. Res. in Java, pl. 59 (1824).

"S. Andaman: May 5, ♀, iris dark red, bill horn-colour, tip yellowish, legs brownish olive."

"Port Blair, S. Andaman: July 14, ♀, 23, ♂, bill orange, feet sienna." (*Wimberley.*)

A single immature example of this genus was obtained by Mr. Ramsay, which I provisionally identify as above. Wing 4 inches, tail 3, tarsus ·55, bill ·75. Above brown washed with cupreous green, parts appearing deep emerald-green, according to the play of the light. Middle pair of rectrices deep green, with a terminal broad bar or rounded spot of rich blue-green. Outer pair of rectrices deep ferruginous on inner webs, white on outer, and barred through with black. Remaining rectrices ferruginous on both webs and with black bars running through. Entire under surface clothed with white feathers, each being traversed by two broad brown bars; the abdominal feathers displaying most white. With this the female example obtained by Captain Wimberley is almost identical; but the male is passing over into the amethystine plumage of the adult. It has the chin, throat, head, nape, interscapular region, some of the wing-coverts and scapulars, the upper tail-coverts and the middle pair of rectrices and two laterals of a lovely amethystine colour. Two of the primaries on one side, one on the other, and one of the secondaries are partially grown and of the same beautiful hue. The dark transverse bars of the lower plumage, and notably of the under tail-coverts, are deep amethystine. The remainder of the wing- and tail-feathers and some of the dorsal plumage are cupreous green, edged or indented with bright rufous.

Some of the feathers in this interesting specimen appear to have changed from green to amethystine without having been moulted. Thus the basal part of one of the median rectrices is more or less green, while the remainder is of a mixed amethystine and greenish hue. Its fellow rectrix, a new feather not fully grown, is coming in of a pure amethystine colour. Several of the upper tail-coverts are green at their base. It would therefore appear that the old feathers have the power of changing their colour from green to amethystine. Ibis, 1874, p. 138.

75. ? Oriolus melanocephalus, Linn. S. N. i. p. 160. no. 3 (1766).

"S. Andaman: March 23, ♂, 29, ♂ ♀, iris carmine, legs greenish plumbeous, bill carneous; April 24, ♂; May 10, ♀."

The five examples in the collection differ from true *O. melanocephalus* by being smaller and by wanting the characteristic broad yellow outer margins of the two innermost tertiaries and feathers. The remaining tertiaries, as well as all the secondaries, exhibit much less yellow on their edges and at their tips. The Andaman black-headed Oriole in this respect resembles true *O. ceylonensis*; but in the latter species the secondaries possess very bold terminal yellow spots. Only one specimen is of a bird in perfect plumage. If it represents the normal characters of the race, the Andaman bird may have to be specifically separated. In their dimensions the Andaman, Burmese, Ceylonese, and Malabar birds are about equal, the average length of the wing being five inches. But the Burmese form only differs from true *O. melanocephalus* by being smaller, the average length of wing in that species from the Himalayas, Bengal, Central India, and Assam being five and a half inches.

76. GEOCICHLA ALBOGULARIS, Blyth, J. A. S. B. 1847, p. 146, "Nicobars."

Geocichla innotata, Blyth, *op. cit.* 1858, p. 270, "Andamans;" Ball, Str. Feath. i. p. 69. no. 61; Blyth, Append. to Mouat, Andaman Isl. p. 360. no. 36 (1863).

"S. Andaman: March, April, May, ♂ ♀; iris umber-brown, bill dark brown, lighter at base of mandible, legs pale flesh-colour."

Ibis, 1874, p. 139. The title adopted above was given by Mr. Blyth to the Nicobar *Geocichla*, which he subsequently identified (*l. c.*) with that of the Andamans. The specific name *innotata*, Blyth, was bestowed (*op. cit.* 1847, p. 146) on examples from the Malayan peninsula, from which the Andaman species appears to differ by being considerably smaller and by having the ferruginous-orange colouring of the plumage, especially on the head, less intense. Mr. Blyth, however, at a later date regarded them as identical.

	Alæ.	Caudæ.	Tarsi.	Rostr.	
G. albogularis, ♂	4	3·25	1·12	0·38	S. Andaman.
,, ,, ♀	4	3·12	1·12	0·38	,, ,,
G. innotata, ♀	4·62	3·25	1·25	0·50	Malacca.

77. MONTICOLA SOLITARIUS (P. L. S. Müller), Syst. Nat. Suppl. p. 142. no. 46 (1776).

Petrocossyphus cyanus (Linn.), Ball, Str. Feath. i. p. 69 (1873).

"Ross Island: Feb. 18, ♂, iris bright brown, bill black, legs dark brown."

Lower breast and ventral region deep chestnut, a few feathers here and there tipped with blue. The single specimen sent is almost identical in plumage with one obtained at Malacca on Dec. 5, 1865.

78. LOCUSTELLA LANCEOLATA (Temm.), Man. d'Orn. iv. p. 614, "Mayence" (1840).

Locustella, allied to *L. raii*, Swinhoe, Ibis, 1861, p. 412, "Amoy."

Locustella minuta, Swinhoe, P. Z. S. 1863, p. 93, "Amoy, Canton."

Lusciniola lanceolata (Temm.), G. R. Gray, Hand-l. i. p. 210. no. 2970 (1869).

Locustella minuta, Swinhoe: G. R. Gray, *op. cit.* iii. p. 277. no. 2976*a* (1871).

Locustella subsignata, Hume, Str. Feath. i. p. 409, "Aberdeen, Port Blair" (July 1873).

"S. Andaman: April 9, bill dark horny brown, below pale fleshy, legs pale fleshy white."

Ibis, 1874, p. 140. 79. PHYLLOPNEUSTE BOREALIS, Blasius, Naumannia, 1858, p. 313, "Sea of Okhotsk."

"S. Andaman: Feb. 21, bill above dark horny, below pale reddish yellow, legs dirty yellowish white; Feb. 22, ♀, iris brown, upper mandible dark horny, lower light horny, legs skin-colour: March 28, ♀."

80. Ruticilla suecica (Linn.), S. N. i. p. 336 (1766).

"S. Andaman: March 9, bill at base horny, at gape yellow, iris dark brown, legs pale brown, soles yellowish; ♂, April 14."

One example has the chin and throat pale blue; a white cross band bordering the pale blue throat; a few of these white feathers tipped with ferruginous; a dark blue band below the white, each feather white at its base; then a broad brown pectoral band, followed by ferruginous. The male specimen, obtained a month later, has the chin and throat pale blue; a broad ferruginous plastron, then a well-defined pale blue band, followed by a dark brown band terminated by ferruginous. This last example is in perfect plumage, unless the paleness of the blue on the throat and breast may be taken as indicative of non-breeding. I have never met with a South-Asiatic specimen so perfectly coloured.

81. Limonidromus indicus (Gm.), S. N. i. p. 962. no. 80 (1788), ex Sonnerat, Voy. Indes, ii. p. 207.

La Lavandière variée, Levaillant, Ois. d'Afr. iv. p. 86, pl. 179, "Caffraria" (!), 1805.

Motacilla variegata, Vieill. N. Dict. xiv. p. 599 (1817), ex Levaill.

Nemoricola indica (Gm.), Blyth, J. A. S. B. 1847, p. 429.

Limonidromus indicus (Gould), B. of As. pt. xiv. pl. (1862).

"S. Andaman: March 20, 24, 29, ♀, iris dark brown, bill horn-colour, light underneath, legs pale flesh-colour."

82. Corydalla striolata (Blyth), J. A. S. B. 1847, p. 435, "Darjeeling."

"South Andaman: ♂, April 14, iris light brown, bill dark brown above, fleshy below, legs pale flesh-colour."

Agrees with Darjeeling examples, but I am disposed to doubt the propriety of separating this form from *C. rufula*.

Ibis, 1874, p. 141.

83. Anthus cervinus (Pallas), Zoogr. Rosso-As. i. p. 511. no. 142 (1831); Blyth, Append. Mouat, Andaman Isl. p. 361. no. 44 (1863).

Anthus rufo-superciliaris, Blyth, J. A. S. B. 1860, p. 105, "Andamans."

"South Andaman: Feb. 17, 18, ♂, iris brown, bill horn-colour, lighter beneath, legs and feet dusky skin-colour."

Two examples with vinous chin and throat, and two with but slight indications of vinous on one or two of the throat-plumes. Axillaries and shoulder-edge in all four albescent.

84. Hyloterpe grisola (Blyth), J. A. S. B. 1843, p. 180 *bis*, "Calcutta;" *op. cit.* 1845, p. 573, "Java"; *op. cit.* 1846, p. 305, "Java and Penang;" Cat. Calc. Mus. p. 153. no. 886, "Penang, Java, Arakan, very rare in Lower Bengal;" *op. cit.* 1858, p. 270, "Andamans."

? *Hylocharis luscinia*, S. Müller, Tidjschrift v. Nat. Geschied. 1835, p. 331, "Sumatra," descr. null.

Tephrodornis superciliaris, Sw. var., Blyth, *op. cit.* 1842, p. 779, "Calcutta."

Hyloterpe philomela (Müller), Cab. Arch. f. Nat. 1847, i. p. 322; Mus. Hein. i. p. 64. no. 375 (1850–51), descr. nulla.

Hyloterpe philomela (Boie), Bp. Consp. i. p. 329, "Java" (1854), descr. nulla.

Tephrodornis grisola, Blyth: Jerdon, B. of India, i. p. 411. no. 266 (1862); Blyth, Ibis, 1866, p. 367. no. 266.

Pachycephala grisola (Blyth), Sclater, P. Z. S. 1863, p. 217. no. 82, "S.E. Borneo."

Hyloterpe philomela (Müller), Blyth, Append. Mouat, Andaman Isl. p. 360. no. 32 (1863).

Hylocharis philomela, Boie: G. R. Gray, Hand-l. i. p. 389. no. 5911 (1869).

"S. Andaman: March 5, ♀, bill black, iris brown, legs dark slaty; Strait Isl., April 2."

This species has never been fully described. Messrs. Blyth and Jerdon are the only authors who have published any kind of description; and their accounts, unsatisfactory and meagre, relate to the Bengal bird. Ibis, 1874, p. 142. But Mr. Blyth has recorded the identity of his *T. grisola* with Javan, Penang, Arracan, and Andaman examples, while Dr. Cabanis, having compared the S.E. Bornean example alluded to by Mr. Sclater (*l. c.*), identified it with Javan examples of *Hyloterpe philomela* (Boie), Temm., in the Berlin museum. This Bornean individual agrees well with several Javan examples, as well as with one from Malacca in my collection. In it the entire head above is ashy brown, the rest of the upper surface of the bird being of a ruddy brown. The throat, cheeks, flanks, abdominal and ventral region silky white, slightly sullied on the throat and cheeks with the cinereous hue of the breast, there forming a distinctive band. The bill is black. A single Javan specimen differs materially from the remainder by having the head, cheeks, ear-coverts, back, and uropygium uniform dark ferruginous ash-colour without a tinge of rufous-brown, and by the throat and breast being almost uniform in their shade of dark smoky ash-colour, though lighter than above. Neither in structure nor in dimensions can this bird be distinguished from the others; and I must therefore regard it as a sexual or other stage of plumage. Three other Javan individuals differ from the Bornean type by having pale yellowish bills, by the upper surface of their plumage being of a much redder and lighter hue, and by the outer edgings of the quills being bright rufous. These may be young birds. Be that as it may, three very distinct phases of plumage are represented in my Javan series.

The three Andaman specimens obtained by Mr. W. Ramsay have the head above and nape smoky ash-colour, very much like the single Javan bird described above; but the cheeks and ear-coverts are pale grey, nearly white, and not fuliginous. The dorsal plumage has more an olive than a ruddy tinge, and is not fuliginous. Underneath, the colouring agrees with the Bornean bird. These Andaman examples therefore represent a fourth phase of plumage; for I am disinclined, without more acquaintance with the group, and after Mr. Blyth's identifications, to regard them as belonging to a distinct species. Ibis, 1874, p. 143. The structure and dimensions of all are reconcilable with the suggestion that they belong to one species. Wing 3·25 inches; tail 3.

The generic title *Hylocharis*, as founded on this bird, or at least on the Javan form, has been by Bonaparte (*l. c.*) attributed to Boie, with the date 1827. So also has the specific title *philomela*. I have failed to find any proof in support of this. *Hylocharis* appears to have been first used by Boie, but for a group of the Trochilidæ (Isis, 1831, p. 546). S. Müller (*l. c.*) seems to be the first who used the generic title *Hylocharis* for this Shrike; and as it had been previously employed by Boie, Dr. Cabanis (*l. c.*) altered it to *Hyloterpe*. Mr. G. R. Gray (*l. c.*) retains the title both among the Shrikes and the Humming-birds, and credits Dr. Cabanis with the authorship of *Hylocharis* as well as *Hyloterpe*, an evident misreading of the passage in the 'Archiv.'

85. Zosterops palpebrosa (Temm.), Pl. Col. 293. fig. 3, "Bengale" (1824).

"S. Andaman: March 3, 29, ♀, iris bright red-brown, bill above dark horn-colour, below whitish, legs greenish grey; April 27, ♂, iris light reddish brown, bill slaty brown, legs slaty green; May 5, ♂."

The male obtained in May closely resembles Maunbhoom examples; but the upper plumage has not quite so yellow a tinge, and the frontal feathers are not perhaps as decidedly bright yellow. The dimensions are alike, save those of the bill, which considerably exceed in length that of the continental species. The other examples are darker above, closely resembling the Neilgherry race, but as dark as in *Z. lateralis*. In them the bill also exceeds in length that of the Maunbhoom and other Indian examples.

86. Emberiza pusilla, Pallas, Reise Russ. Reichs, iii. p. 697. no. 20, "Dauria" (1776).

Emberiza sordida, Hodgson, J. A. S. B. 1844, p. 958, "Nipaul," ♀.

Ocyris oinops, Hodgson, P. Z. S. 1845, p. 35, ♂.

"S. Andaman: March 28, ♀, iris dark brown; bill dark horn-colour, lighter below; legs flesh-yellow." Ibis, 1874, p. 144.

Undistinguishable from Lake-Baikal examples.

87. Munia fumigata, Walden, Ann. Mag. N.H. (4), xii. p. 488[*], "S. Andaman" (Dec. 1873).

Munia leuconota (Temm.), Ball, Str. Feath. i. p. 79. no. 90, "Andaman" (1873), nec Temm.

"S. Andaman: Feb. 11."

The following Asiatic species constitute, together with this Andaman bird, a well-defined subgroup of the genus *Munia*:—

Uropygium white.

(1.) Loxia striata, Linn.[†], S. N. i. p. 306. no. 37 (1766), ex Briss. Orn. iii. p. 243, "Isle de Bourbon."

Loxia albiventris, Herm. Observ. Zool. p. 205, "Tranquebaria" (1804).

Fringilla leuconota, Temm., Pl. Col. 500. fig. 2, "Bengal" (1830).

Dorsal plumage pale-shafted; abdominal region and flanks pure white.

Ceylon, Peninsular and Central India, Lower Bengal.

(2.) Munia acuticauda, Hodgson, As. Res. xix. p. 153, "Nipaul" (1836).

Munia molucca (Linn.)? Blyth, Cat. Calc. Mus. p. 117. no. 626, nec Linn.

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[*] [*Anteà*, p. 252.—Ed.]

[†] Relying on the short preliminary diagnosis given by Brisson (*l. c.*), I referred (Ibis, 1869, p. 211, note) the Javan species, *M. leucogastroides*, Moore, to *L. striata*, Linn. A renewed study of the Brissonian text has enforced me to alter this opinion. Unless the island of Bourbon possesses a species of *Munia*, or that of Java a second species, more perfectly agreeing with Brisson's description, it will be most convenient to retain the Linnæan title for the Indian-peninsula form, if we do not reject it altogether.

Abdominal plumage white faintly marked with pale brown; middle rectrices elongated.

Nepal, Sikim, Himalayas, Assam, Mergui, Burma, Malacca, Hainan to Shanghai, and westwards to Szechuan, Formosa.

In Malaccan birds the pale brown hastate markings on the abdomen are better defined and much more pronounced.

Ibis, 1874, p. 145. (3.) MUNIA FUMIGATA, Walden, *ut suprà.*

Dorsal plumage unstriated. More nearly allied to *M. acuticauda* than to *M. striata.*

Uropygium uniform with the back.

(4.) MUNIA LEUCOGASTRA, Blyth, J. A. S. B. 1846, p. 286, note, "Malacca."

Munia melanictera (Gm.)? Blyth, Cat. Calc. Mus. p. 117. no. 629, nec Gm.

Dorsal plumage pale-shafted; flanks dark brown; middle rectrices lustrous yellow.

Malacca.

(5.) MUNIA LEUCOGASTROIDES, Moore, Cat. E. I. C. Mus. ii. p. 510. no. 777, "Java" (1856–58).

Fringilla striata (Linn.), Horsf. Tr. L. S. xiii. p. 161. no. 5, "Java" (1820), nec Linn.

Dorsal plumage unstriated; all the rectrices black; flanks white.

Java.

88. DENDROCITTA BAYLEYI. (Plate VI. *in orig.*)

Dendrocitta baylei, Tytler, J. A. S. B. 1863, p. 88, "Andamans."

Dendrocitta bazlei, Tytler (*lapsu cal.*), Blyth, Ibis, 1863, p. 112.

"S. Andaman: March and April, ♂ ♀, iris bright golden yellow; bill, feet, and legs black."

The female seems to be somewhat smaller, while the plumages are alike.

89. CALORNIS AFFINIS, A. Hay, J. A. S. B. 1846, p. 36, "Tipperah, Arracan, Nicobars;" v. Pelzeln, Novara Exp. *Aves*, p. 87, "Nicobars" (1865).

Calornis panayensis (Scopoli), Ball, *op. cit.* 1872, p. 285. no. 40, "Andamans."

"South Andaman: Feb. 19, 27, ♂, iris brown, bill, legs, and feet black; March 4, 14, April 10, 24."

A species fairly distinguishable from *C. insidiator* by its greater dimensions and much duller plumage, but identical with continental examples of *C. affinis.*

Ibis, 1874, p. 146. 90. SQUATAROLA HELVETICA (Linn.), S. N. i. p. 250. no. 12 (1766).

"S. Andaman: Feb. 12, legs greenish grey."

In winter plumage.

91. GLAREOLA ORIENTALIS, Leach, Tr. L. S. xiii. p. 132, pl. 13, "Java."

"S. Andaman: March 9, 10, ♂ ♀, iris dark brown, bill black, red at gape, legs greenish horn-colour; Cocos Isl., April 5."

92. DROMAS ARDEOLA, Paykull, Sv. Ak. Handl. 1805, p. 108, pl. 8.

"Macpherson Strait, Andamans: March 4, ♂, legs pale bluish slate, bill black. S. Andaman: March 12, ♂, iris dark brown, legs pale slaty blue, bill black."

"Andaman: June 25." (*Wimberley.*)

Two examples, shot on March 4, have the feathers of the occiput and nape brown-centred; those of the interscapular region and the primaries dark brown, rather than black, mixed with grey. The lengthened tertiaries are ashy rather than white. A third has the head pure white and the black plumage as in full dress; but the tertiaries are tinged with ashy. The birds killed on the 12th are in full black-and-white plumage. The example, however, obtained on June 25 is in immature plumage.

93. ? HYPOTÆNIDIA STRIATA (Linn.), S. N. i. p. 263 (1766).

Rallus striatus, Linn. (?), Ball, J. A. S. B. 1872, p. 288. no. 57.

"S. Andaman: April 25, ♀, bill pinkish plum-colour, tip and culmen slate-colour, iris red, legs dull pinkish buff; May 5, ♂, bill purplish lake, tip and culmen slaty brown, iris red, legs pinkish buff."

The crown of the head only is dark chestnut-brown in the specimen noted as being of a female (*conf.* Ball, *l. c.*).

The type of the Linnean species was obtained in the Philippines; and until Indian and Malayan are compared with Philippine examples their identity must remain in doubt. These Andaman individuals differ from the continental and Malayan form by being of a much darker iron-grey underneath, by the olive parts of the upper plumage being darker, and the chestnut of the head and nape of a deeper shade, almost brown on the crown. It may be that they belong to true *H. striata*; but if it should prove otherwise, I propose for this Andaman race the title of *H. ferrea*.

Ibis, 1874, p. 147.

94. ERYTHRA PHŒNICURA (Forster), Zool. Ind. p. 19, pl. 9, "Ceylon" (1781).

"S. Andaman: March 10, April 4, ♀, iris reddish brown, legs greenish yellow, bill pale green, red at base of upper mandible; May 7, ♀."

95. TOTANUS CALIDRIS (Linn.), S. N. i. p. 252. no. 19 (1766).

"S. Andaman: Feb. 20, ♀, iris brown, legs and feet dull orange-red, base of lower mandible red."

"Port Blair, South Andaman: May 31, July 12." (*Wimberley.*)

96. TRINGA SUBARQUATA (Güldenst.), Nov. Com. Petr. xix. p. 471, pl. 13 (1775).

"S. Andaman: March 22, ♂, legs and feet greenish black."

97. TRINGA CRASSIROSTRIS, Schlegel, Faun. Jap. *Aves*, p. 107, pl. 64, "Japan, Java, Borneo" (1846).

Schœniclus magnus, Gould, P. Z. S. 1848, p. 39, "Australia;" Birds of Australia, vi. pl. 33.

Tringa magna (Gould), Bp. C. R. xliii. p. 596. no. 211 (1856).

Tringa tenuirostris (Horsf.), Swinhoe, P. Z. S. 1863, p. 315. no. 298; *op. cit.* 1871, p. 408. no. 560.

Tringa tenuirostris (Horsf.), Gould, Handbook B. of Australia, ii. p. 260, sp. 520 (1865); G. R. Gray, Hand-list, iii. p. 49. no. 10302 (1871).

"S. Andaman: March 14, ♀, iris dark brown, bill black, legs greenish brown."

Both Professor Schlegel (M. Pays-Bas, *Scolopaces*, p. 28) and Mr. Harting (*in epist.*) are of opinion that *Totanus tenuirostris*, Horsf. Tr. L. S. xiii. p. 192, "Java," refers to *Totanus stagnatilis*, Bechstein, and not to this bird. Mr. Harting most justly observes that Horsfield (*l. c.*), having classed the Javan bird under the genus *Totanus*, would never have used the Ibis, 1874, p. 148. expression "the beak is more slender than in the European species of this genus" if he had been describing from an example of *Tringa crassirostris*.

98. Ardea purpurea, Linn. S. N. i. p. 23. no. 10 (1766).

"Port Blair, S. Andaman." (*Wimberley.*)

99. Herodias intermedia (Wagler), Isis, 1829, p. 659, "Java."

Ardea egrettoides *, Temm. Man. d'Orn. iv. p. 374, "Sicile," *errore* (1840); Faun. Jap. *Aves*, p. 115, pl. 69, "Japan, Java" (184–); Jerdon, Birds of India, iii. p. 745. no. 926 (1864).

"S. Andaman: Feb. 28, ♂, iris yellow, orbital skin bright yellow, bill dark yellow, legs greenish black."

The type of this Egret was sent to Leyden by Von Hasselt from Java, with the manuscript name of *Ardea intermedia*. Wagler, however, was the first to describe the species and publish the title (*l. c.*).

100. Herodias garzetta (Linn.), S. N. i. p. 237. no. 13 (1766).

Ardea nigripes, Temm. Man. d'Ornith. iv. p. 376, "L'Inde et les îles Sondaïques, la Nouvelle Guinée."

"S. Andaman: Dec. 17, ♂, iris yellow, feet green, legs and bill black, skin at base of bill yellow."

This is the true *A. nigripes*, Temm., and also of Bonaparte (Consp. ii. p. 119. no. 3), but not *A. nigripes*, Temm. apud. Bp. *tom. cit.* p. 116 (*conf.* Schlegel, Mus. P.-Bas, *Ardeæ*, pp. 14 & 19).

101. Ardeola grayi (Sykes), P. Z. S. 1832, p. 158. no. 176, "Dukhun."

Ardeola leucoptera (Bodd.), Jerdon, Birds of India, iii. p. 751. no. 930.

"S. Andaman: March 10, ♂, iris pale yellow, bill orange-yellow, legs pale green; April 24, ♀."

Ibis, 1874, p. 149. In non-breeding-plumage. I have adopted the title referable to the continental species on the assumption that the Andaman bird belongs to it, and not to either the Malaccan form (the true *A. leucoptera*) or to that of Java (*A. speciosa*).

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* Not of S. G. Gmelin, Reise, ii. p. 193, pl. 25, which is a synonym of *Ardea alba*, Linn.

102. Nettapus coromandelianus (Gm.), S. N. i. p. 522. no. 90 (1788).

"S. Andaman: Feb. 10, iris undistinguishable, apparently red, upper mandible black, lower yellow horn-colour, legs and feet greenish plumbeous tinged with yellow."

"Port Blair, S. Andaman: July 28, ♂ ♀." (*Wimberley.*)

The two examples obtained by Captain Wimberley are adult. The one shot by Mr. W. Ramsay is an immature bird.

103. Sterna paradisea, Brünnich, Ornith. Borealis, p. 46, "Christiania" (1764).

"Port Blair: May 20, 24; July 28, 30." (*Wimberley.*)

One example (May 20) in perfect plumage; lower surface deeply suffused with a rosy salmon tint; outer pair of rectrices exceed the middle pair by 3½ inches; the white edging of the inner margin of the primaries runs round their extremities; the bill is black, except at the gape, where it is orange-red. All the examples shot in May have bills similarly coloured, excepting one, which has the basal half pale reddish yellow and the remainder brown. One shot in July has the entire bill pale yellow.

Mr. Howard Saunders, who has kindly identified this Andaman Tern, informs me that it is absolutely identical with English, American, Spanish, and African specimens.

104. Onychoprion melanauchen (Temm.), Pl. Col. 247, "Celebes" (1827).

"S. Andaman: April 9, May 8, 9, 11, ♂ ♀, iris hair-brown, bill black, legs pinkish brown."

"S. Andaman: May 20, 24; July 30." (*Wimberley.*)

Full series were obtained by both Mr. W. Ramsay and by Captain Wimberley. They are all in perfect dress, and exhibit a delicate roseate hue on their lower plumage.

105. Onychoprion anastilætus (Scopoli), Del. Fl. Faun. Insubr. ii. p. 92. no. 72 (1786), ex Sonnerat.

"S. Andaman: March 12, ♀."

A Reply to Mr. Allan Hume's *Review* of 'Die Papageien' of* Dr. Otto Finsch. By Arthur, Viscount Walden, M.B.O.U. [From 'The Ibis,' July 1874.]

Ibis, 1874, p. 270.

Dr. Finsch published the first volume of his famous monograph of the Psittacidæ in 1867; the second volume in 1868. Mr. Hume has (*l. c.*) reviewed the work in 1874. It is of the highest importance that the reader of the Review and of the following remarks should constantly bear the last two dates in his memory. But the reader will be disappointed if, misled by the full title of Mr. Hume's review, "Die Papageien," he expects a comprehensive account of the entire work. For, though the footfall of Mr. Hume is not usually deterred by angelic fears, in this critique of a complete work on the Parrots of the world he has only favoured us with the benefit of his views on Dr. Finsch's treatment of eleven species, belonging to a single genus, *Palæornis.* Truly but a small portion of Dr. Finsch's exhaustive monograph of the Order! Mr. Hume's critical remarks, though thus narrowed, cannot be described as either strictly complimentary or enucleate. He assures us his "relations" with Dr. Finsch "have always been most friendly" (*t. c.* p. 28); but his first impulse, after grudging the postage on a second copy, was "to throw the book into the fire" (*t. c.* p. 4); and in this dignified frame of mind he proceeds, by a pitiless bespattering of Dr. Finsch, to still further cement their "friendly relations." Ibis, 1874, p. 271. Besides many smaller, two serious charges are brought against Dr. Finsch. He is accused of treating Jerdon, Blyth, and all Indian ornithologists generally with slighting discourtesy; and, secondly, of displaying a wanton and perverse ignorance of the species he has written upon—"error too, entirely gratuitous" (*t. c.* p. 1). It is proposed in the following remarks to examine into these accusations and to ascertain whether, considering their gravity when brought against a scientific man, they rest upon any more solid foundation than Mr. Hume's assertions. With this object in view each species known in the skin by Mr. Hume will be treated separately and in its order, while the remarks of Mr. Hume on the remaining species of the genus, unknown to him, will be left unnoticed. Some preliminary and lesser (speaking comparatively) attacks on Dr. Finsch deserve a cursory review, and may conveniently be at once referred to.

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* 'Stray Feathers,' ii. pp. 1–28 (1874).

Before entering into details, Mr. Hume records his "humble protest against the presumptuous . . . . systematic pedantry which characterizes a certain section (chiefly continental) of naturalists, and leads them to discard the names given, too often by better men than themselves, ... for new-fangled appellations of their own, because, forsooth, their vast classical attainments have enabled them to discover that the original name is not a '*classich*[*] *gebildetes wort*'[†]. Dr. Finsch is a hardened offender in this respect, and cannot possibly be recommended to mercy" (*t. c.* p. 2). And Dr. Finsch is then fallen upon for his alterations of the specific titles *schisticeps*, Hodgs., and "Jerdon's[‡] *columboides*," to *hodgsoni* and *peristerodes*. "Let us," Mr. Hume exclaims with an inimitable humour, "Let us treat our author as he treats other people's species. '*Finsch*'[§]! contrary to all rules of orthography! what is that '*s*' doing there? *Finch*'! *Dr. Fringilla*, MIHI! Classich[||] gebildetes wort[¶]!!" (*l. c.*). Nor is this dull drollery permitted to expire. Ibis, 1874, p. 272. For, once and again, in sentences such as "now to return to Dr. Fringilla, I mean Finsch" (*t. c.* p. 4), and "regardless of the whole family of *Fringillidæ*" (*t. c.* p. 20), its ghastly echos grate on the tortured senses. It is not desired to be too hard on these feeble witicisms, nascent genius deserves encouragement, and their transcription to the pages of 'The Ibis' is a penalty sufficiently severe. Moreover it may be assured that if indulgence in such dreary buffoonery amuses Mr. Hume, or insists in promoting in India, if not the credit, at least the sale, of his periodical, Dr. Finsch will not grudge him the gratification. But deserving of passing notice is the fact that even when elaborating a joke, Mr. Hume cannot avoid being linguistically inaccurate. The German proper name 'Finsch' and the English substantive 'finch' are not synonymous.

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[*] Corrected in *errata*.

[†] *Sic.*

[‡] *Sic.*

[§] All words in italics throughout this paper, other than titles of species, are so printed by Mr. Hume.

[||] Corrected in *errata*.

[¶] *Sic.*

In his concluding page (*t. c.* 28) Mr. Hume asks, "Pray Dr. Finsch how can it advance our real objects one atom, to call a bird that every one recognizes as 'columboides' by your *truly* classical name 'peristerodes'?" Without presuming to divine what Mr. Hume's "real objects" may be, the simple answer is that *peristerodes* is right and *columboides* is wrong. Let the literal meaning of the word *columboides* be expressed by a combination of English and French, or of English and German words, instead of Latin and Greek, and the grotesque incongruity will become apparent. Thus, Pigeonsemblable, or Pigeonähnlich, parrakeet. But from a writer who, when reviewing the masterly scientific work of a highly educated gentleman, descends to the use of slang terms and repellent vulgarisms, it may be too much to expect any appreciative sympathy with the modes of expression of a refined and cultured intellect.

This assumption is not weakened by the passage now to be quoted, containing the reply of "an unsophisticated field-naturalist here" to the question put by Mr. Hume of "what he thought of these Continental naturalists, with their eternal new names, and the everlasting '*mihi*' tagged on after them." "'Well' he said 'I guess the beggars can't discover any new species of their own, so they have dodged up this classical jim, to legalize their stealing other people's'" (*t. c.* p. 2). May it be asked, not from motives of mere curiosity, but for the information of ("the beggars"), the benighted naturalists of Europe, whether this is the style in which Indian field naturalists converse, or, at the least, those with whom Mr. Hume associates? or are we to take it as being only a sample of that language of the future "100 years hence, when English is spoken, as it then will be, by 500 millions of people"? (*t. c.* p. 4).

Ibis, 1874, p. 273.

Not content with next gracefully indicating in these choice lines,

"'Him as prigs vot isn't his'n,
Ven he's cotched 'ill go to pris'n,'"

the proper abode of Dr. Finsch, Mr. Hume further threatens him, and authors like him, with the pillory—"and if the learned authors escape the pillory they so richly deserve (and it shall be no fault of mine if they do), at any rate we have the consolation of knowing, that posterity if it cannot 'quod' them 'will quod,'" etc. (*t. c.* p. 3). There is something sublimely comical in this gentleman's threat to "pillory" those authors whose principles of nomenclature differ from his own. That Mr. Hume, single handed, is fully capable of providing an abundant supply of the appropriate missiles is not impossible. But who will assist in erecting the pillory?

There is also another form of pedantry which greatly exercises Mr. Hume; that "curious custom of parading brief descriptions in what is *supposed* to be Latin; as prefixes or tags to full, sound, sufficient English or German ones" (*t. c.* p. 3). "The motives that lead authors into this somewhat meaningless practice" (*l. c.*) are then analyzed, all that is ungenerous being attributed to them, while the self-evident reason escapes Mr. Hume's powers of conception. We are then assured, in solemn, prophetic tones and with a startling confidence, untempered by even a single, favourite, unctuous, saving adjuration of "D. V.," "that 100 years hence, when English is spoken, as it then will be, by 500 millions of people, any of their writings that survive, will do so only in expurgated editions from which all the 'Latin' has been carefully expunged" (*t. c.* p. 4). Then it is seriously suggested that Latin should be discarded and that all descriptions should be written either in English, German, or French—it being overlooked that while naturalists of all

Ibis, 1874, p. 274.

nations might and do agree to employ Latin as a common medium of thought-exchange, it is most improbable that they would consent to forego using their own language and to adopt that of some rival nation. The Swedes, Norwegians, Danes, Russians, Dutch, Hungarians, Poles, Czechs, Spaniards, Portuguese, and Italians have all produced and are producing naturalists. Why are they to be condemned to write in English, French, or German? Would Mr. Hume consider it fair, when desirous of making known the discovery of a *Dissemuroides dicruriformis* * (!), to be restricted to the use of the Czech, Russian, or Hungarian tongues? Is not Latin also that language in which descriptions can be rendered with the greatest precision and conciseness? M. Severtzoff's recent work, 'Turkestanskie Sevotnie,' is a case in point. It contains descriptions of many new species, and is entirely in Russian. It might be argued that M. Severtzoff should have written in English, French, or German. But perhaps M. Severtzoff may think that "100 years hence" Russian will be spoken by "500 millions of people" rather than English. Mr. Hume's proposal carries its own refutation.

Knowledge of the past and current literature implied, in natural history, by the term 'synonymy' meets with as little favour from Mr. Hume as every other branch of knowledge in which he is not a proficient. It is even doubtful, judging from his remarks, whether the meaning involved in the term is not somewhat beyond his grasp. A good synonymist, among other things, knows every description of a species, or, in other words, every species that has been described, and consequently the correct geographical range of each species. His statements of facts are therefore more likely to be accurate than those of the illiterate writer. If Mr. Hume were a synonymist he would have spared us many stale facts under the name of "novelties." Nor would he, for example, have recorded (*op. cit.* i. p. 378. no. 452) that a bird whose range is restricted to South China, *Ixus chrysorrhoides*, Lafr., occurs in the centre of India. If the author of the excellent paper † in which this appears (*t. c.*) had only been allowed to follow Jerdon this blunder would have been avoided. Ibis, 1874, p. 275.

All through the Review there runs an endeavour to resuscitate fallacies, long since refuted and buried in Europe, concerning the superiority of one class of naturalists over another. Mr. Hume has noticed "a tendency on the part of the compilers of other men's observations to exalt themselves above the observers," etc. (*t. c.* p. 26), and a great deal more in the same imaginative strain, the outcome of but groundless though honest delusions. Can any one of my readers find among the past or daily writings of European naturalists a parallel to the exalted and vaniloquent self-assertion of this "humble student of many branches of Natural History" (*t. c.* p. 26)? Some stray sentiments contained in the concluding paragraphs of his Review are, though devoid of novelty, unimpeachable. But from the general drift of Mr. Hume's criticisms it is to be gathered that the men whose position, by choice or accident, enables them to live for a period of years in a country where certain animals are indigenous, and who, by means of their native collectors or by their own hands, are able to convert them into specimens from "the flesh," are immeasurably superior to the man who endeavours to evolve order out of chaos, and to marshal the disconnected often ill-digested and sometimes erroneous observations made by them. It is the old squabble between the belly and the members, and is certainly unworthy of discussion. But I venture to maintain that workers in the cause of any science are superior or inferior according to the amount of knowledge possessed by them of their special subject. To be a "trustworthy" field naturalist, who is after all only an observer of a single class of phenomena, he must have acquired, by long and assiduous study, all that has been recorded as observed by former naturalists. He must not only have a thorough knowledge of his own branch of natural history, but he must possess a more than general acquaintance with every other branch. By this means, and this only, will he know what to observe and how to observe. Knowing all that Ibis, 1874, p. 276. has been written, he will know what species have been described, what problems demand solution, and he will not bore the world with repetitions of well-known facts or records of trivial and useless observations. Another essential quality is that which gives the power of recording with precision and terseness, untainted by an inflated, sententious, and dogmatic egotism, the results of his observations. Such was Dr. Jerdon. If asked to illustrate my meaning by a living standard, I would name Mr. Wallace as the highest.

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* Hume, Str. Feath. i. p. 408.

† R. M. Adam, "Notes on the Birds of the Sambhur Lake."

"Let the cabinet naturalist stick to his synonyms . . . . but let him avoid the presumption of disputing and denying the facts stated by admittedly trustworthy members of this latter class" (field workers) "because they happen to run counter to his own theories" (*t. c.* p. 27). It would be easy to point out the numberless erroneous observations made by field workers, Indian field workers to boot, even with the objects of their observations constantly before their eyes. And are naturalists in Europe (the most of whom, if not all, have been in their day, and are even now, field workers) to be charged with presumption when they "dispute" or "deny" such erroneous observations, or can show an absence of conclusive evidence? Why, the healthy progress of science depends on antagonism; it is by the flails of disputation that the truth is threshed out. But it is new to hear that a naturalist is open to imputations of presumption when he "disputes or denies" the accuracy of other men's observations. May we not, without being chargeable with flattery, venture to assume that Mr. Hume falls within his own definition of a trustworthy field naturalist; and yet was he not the discoverer, describer, and namer of *Niltava leucotis* (Ibis, 1870, p. 144)? An achievement almost vying in brilliancy with that of the discoverer of *Sparactes cristata.* Should a cabinet naturalist be debarred from disputing such an observation if he found it "ran counter to his own theories" of structure? In this instance cabinet naturalists were saved from the disagreeable duty; for I believe Mr. Hume subsequently suggested that he had described from a made-up specimen (Zool. Rec. vii. p. 50). But ornithologists generally owe a deep debt of gratitude to Mr. Brooks for having first shown in Ibis, 1874, p. 277. detail, through the Editor of 'The Ibis' (1871, p. 445, note), the real nature of this interesting species. Otherwise it might, for many years, if not for ever, have remained an object of hopeless longing to the Indian field ornithologist, and a perplexing puzzle to his less fortunate brethren the cabinet naturalists of the world. But as this useful information has been "paraded" only "in what is supposed to be Latin" and without "a full, sound, sufficient English or German" description, below is given* a translation for the benefit of the "500 millions of people" by whom "100 years hence" English will be spoken; and who will then only possess "expurgated editions" of 'The Ibis,' if it "survives," and "from which all the 'Latin' has been carefully expunged."

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* "A manufactured bird, body of the *Rufous-bellied Fairy blue-chat*, head of the *Indian grey-tit*" (Ibis, *l. c.*). Dr. Finsch, although stigmatized a "pseudo-classicist" by Mr. Hume (*t. c.* p. 4), is doubtless competent to supply "a full, sound, sufficient German" description, if required.

As previously stated, one of the most serious accusations brought against Dr. Finsch is that of slighting discourtesy to Jerdon, Blyth, and other Indian naturalists. I have carefully read and reread the whole of Dr. Finsch's text, and have been unable to discover a passage that can, unless twisted, be fairly said to support the charge. "Dr. Finsch, a cabinet naturalist, on the strength, mainly, of some mis-sexed specimens in museums, takes on himself to disregard and disbelieve the positive statements of working field naturalists. Most pathetically does he lament our ignorance (he should have spoken for himself, I think, not others!). He says (p. 26);" and then follows Dr. Finsch's general remarks commencing with, "Unfortunately we lack almost entirely a thorough observation of the Parrots" (Papag. i. p. 26)—remarks absolutely true when Dr. Finsch wrote, even if applied to the Indian Parrots, and still so of the greater part of the species to this day. Dr. Finsch in the passage quoted uses the word "Parrots" generally and in its widest sense. Mr. Hume, by restricting its meaning to the half dozen or so of species he Ibis, 1874, p. 278. has seen, dexterously turns Dr. Finsch's general remarks into a reflection on Jerdon. And yet Mr. Hume's tender and disinterested solicitude for Jerdon's reputation does not prevent him thus writing of Jerdon, "that owing to his ill health in later years and his disregard for the literary side of his work" his "merits" "have been greatly underrated;" and, further on, "I admit that his book embodies many grave errors" (*t. c.* p. 5). His "merits underrated"! By whom, where? Not in Europe, surely not throughout India! "Disregard for the literary side of his work"! to be said of a man whose extraordinary acquaintance with the literature of his subject is displayed in all he wrote. Extraordinary in Jerdon, for in his day communication with Europe was infrequent and the land was not flooded, as now, with manuals and hand-books whereby the most shallow can attain with small exertion a smattering of facts sufficient to babble about under the name of science. "Grave errors"! It may be so. I have not detected them. But Mr. Hume says so. Dr. Finsch does not*. Mr. Blyth, with whose conclusions Dr. Finsch is not always in accord, was, while in India, essentially a cabinet naturalist. During the many years of his Indian sojourn he hardly quitted† the four walls of the museum his genius, knowledge, industry, and indomitable energy raised to the highest rank. Of the fourteen species of the genus *Palæornis* enumerated by Dr. Finsch he knew, previous to 1868, in the wild state, at the most only four—*P. torquatus*, *P. cyanocephalus* of Bengal, *P. eupatrius*, and *P. melanorhynchus*. As caged birds he may occasionally have seen two more—*P. schisticeps*, and perhaps *P. longicaudatus*.

Let us now take each of the species of the genus *Palæornis* in the sequence followed by Mr. Hume, and examine into the merits and justness of his criticisms. First comes *Palæornis eupatrius* (Linn.)=*P. alexandri* (Linn.) of Jerdon, Blyth, and the older Indian writers, subdivided Ibis, 1874, p. 279. by Mr. Hume in his Review, and for the first time, into three distinct species. Mr. Hume's arguments in support of this subdivision have therefore no bearing on Dr. Finsch beyond this, that our German author followed both Blyth and Jerdon and nearly every other Indian naturalist when keeping the species united, while Mr. Hume differs from them. Captain Hutton last year, and also for the first time (Str. Feath. i. pp. 335, 338), had already subdivided one of Mr. Hume's three species into four distinct species ; so that between these two Indian field naturalists the species, *P. eupatrius*, which Jerdon and Blyth had considered one and the same, is broken up into six species. "Dr. Finsch did not discriminate these three species and perhaps may not admit them now" (*t. c.* p. 11). Quite true. Unfortunately Dr. Finsch had followed Jerdon and Blyth, and had not foreseen in 1868 what Mr. Hume's great superiority of perception was going to discover in 1874. Mr. Hume then proceeds to quote the greater part of the passage in which Dr. Finsch states his reasons, in opposition to Jerdon and Blyth's recorded opinions, though stated with complete courtesy, for not feeling convinced that the sexes in *P. eupatrius* are distinguished by sexual peculiarities of plumage (Papag. ii. p. 14). After which Mr. Hume exclaims, "Please note the modesty and courtesy of this passage! Dr. Jerdon and Blyth (who have examined the fresh birds) state so and so, but Dr. Finsch thinks it is very probable that it is *quite* the contrary. Like the Psalmist of old, Dr. Finsch seems to have 'said in his heart that all men are liars'" (*l. c.*). There is not a word of discourtesy nor of dogmatism in the whole passage, though made to wear a semblance of egotism by Mr. Hume omitting, I will not say intentionally, to quote the concluding sentence. Here is the omitted final sentence with which the passage, as transcribed by Mr. Hume (*t. c.* p. 11), should be read. "Inasmuch as I must therefore in the meanwhile leave the question undecided, I commend it to the attention of all ornithologists (lege ich sie allen Ornithologen an's Herz)" (Papag. *l. c.*).

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* No man, with so long a career, made fewer bad "species" than Dr. Jerdon, proof by itself of the knowledge of his subject.

† I believe he only made two excursions of any importance—one to the Midnapur jungles and, much later, on account of illness, one to Burma.

Jerdon and Blyth state that the large rose-ringed Parrakeets of Ceylon, the Andamans, and of the continent belong to one species. Mr. Hume states that they constitute three species. Mr. Hume may differ. Dr. Finsch may not. We then are favoured with the information that Mr. Hume has "dissected at the *very least* fifty specimens of *P. sivalensis*" and that "Davison and I have recently sexed eighteen of *magnirostris*"*. And all that Mr. Oates and Captain Feilden and Messrs. Legge and G. Nevill have done and told Mr. Hume, that is, within the last year or two and with results unpublished until 1874, therefore has no bearing whatever on the conclusions arrived at by Dr. Finsch from the evidence existing previous to 1868. Ibis, 1874, p. 280.

And here let us pause to consider how is Dr. Finsch to deal with *P. eupatrius* when he is producing a second and *most materially* revised edition" (*t. c.* p. 1), especially if Mr. Hume's hope of living to see it is likely to be realized. Captain Hutton, "our oldest Indian naturalist, who knew all about these Paroquets long before Dr. Finsch was born" (*t. c.* p. 14) and who "is quite a Paroquet fancier" (*t. c.* p. 12), says there are, and has named, four species on the Indian continent. Mr. Hume, "editor of the sole Indian ornithological journal," states that there is only one. Both are Indian field naturalists, who besides "contradicting"† Jerdon and Blyth, "contradict" one another. True, Dr. Finsch in his perplexity may point out that one species, *P. sacer*, Hutton (Str. Feath. i. p. 337), has never been seen by its discoverer, and that "the natives cannot distinguish" it from the common species; that another, *P. punjabi* [!], Hutton (*t. c.* p. 338), also "regarded by the natives as identical" (*l. c.*), chiefly differs by "sometimes sitting the whole day through without uttering any sound at all," its cry, however, when heard, differentiating the species by "being much more feeble and slightly croaking" (*l. c.*). While of *P. vindhiana*, Hutton (*l. c.*), its discoverer, describer, and denominator had "seen but one specimen and that was a half-fledged nestling brought to me for sale at Monghyr many years ago" (*l. c.*), and he has "failed to procure a specimen since" (*l. c.*). But of what avail these reasons when urged by a cabinet naturalist "on the strength of half a dozen wrongly sexed skins in some museum, taking upon himself to contradict the definite statements of trustworthy field naturalists like those" I have "referred to, in regard to matters of which he can personally know nothing" (*t. c.* p. 2). Would it not appear "to indicate a tone of thought incompatible with the philosophical investigation of any branch of physical science" (*l. c.*)? Ibis, 1874, p. 281.

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* Titles recently proposed for two of the fragments of *P. eupatrius*.

† The noble passage commencing "I contradict Dr. Finsch, and would contradict any one else," etc. (*t. c.* p. 8), and others, displaying almost equal beauties, a lack of space compels reluctant omission.

"'What the young birds are like is unfortunately never said.' Well, let Dr. Finsch hear what Captain Hutton says" (*t. c.* p. 12). Dr. Finsch's remark was absolutely true when he published it, and the plumage and colouring of the young birds remained undescribed until 1873, when Captain Hutton first published his account (*t. c.* p. 336), to which Mr. Hume now refers Dr. Finsch in 1874, without, however, indicating the source or the date, and thereby leaving the reader to infer that Dr. Finsch ought to have known it.

Mr. Hume then notices a geographical error in this wise:—"As for what Dr. Finsch *can* prove, about *torquatus* and *cyanocephalus*, we shall see hereafter, in the mean time in regard to the present group of species, I would remark, that if Leith Adams really says he found any one of them common in the 'Forest districts of Ladakh,' I will not contradict him, *but* I can only say I have been all over Ladakh, twice*, without being so fortunate as to meet with any Forest district, and that I never myself met with the large rose-ringed Paroquet in Ladakh . . . . . ." (*t. c.* pp. 12, 13). What Dr. Finsch does really make Leith Adams say is, "very common in all the forest districts of Cashmere and Ladakh" (Papag. ii. p. 15). This is taken from Mr. Adams's paper "The Birds of Cashmere and Ladakh" (P. Z. S. 1859, p. 169); and Dr. Finsch has inadvertently added the words "and Ladakh" to the phrase "wooded slopes of the lesser ranges southward of Cashmere." That Dr. Finsch was nodding at the time he made the quotation is true; but surely it was a very little nod and easily explained, and Mr. Hume ought to have given the quotation in full. In his account of the complete range of the species (*t. c.* pp. 14, 15) Dr. Finsch correctly excludes Ladakh while retaining Cashmere. Ibis, 1874, p. 282.

Mr. Hume then favours us with this criticism:—"Dr. Finsch says, that *eupatrius* never frequents gardens or towns, but I may mention that the last time (November 9th, 1867), I was up the minars of the Juma or Badishaiee Musjid at Lahore, a huge flock of *sivalensis* were wheeling and screaming round me," etc. (*t. c.* p. 13). Dr. Finsch's statement is nevertheless perfectly accurate and in accordance with the recorded observations of all Indian naturalists (*conf.* Blyth, J. A. S. B. 1850, p. 232, and Ibis, 1863, p. 3; and Jerdon, B. of Ind. i. p. 257). Anyhow, could Dr. Finsch possibly know, fully admitting the vast importance of the fact (only published in 1874), that Mr. Hume "the last time" he "was up the minars of the Juma or Badishaiee Musjid at Lahore," namely the 9th of November, 1867, had made this valuable observation? And had he known, could Dr. Finsch have stated it without risking the imputation of "pooh-poohing contemptuously the recorded experience of men like Jerdon and Blyth" (*t. c.* p. 2)? With a due feeling of awe, and under correction, I venture to surmise that, after all, the huge flock noticed by Mr. Hume when he last "went up the minars of the Juma," etc., was one of *P. torquatus.*

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* Does not Mr. Hume here rather hide his light under a bushel? What, no further than Ladakh? The booksellers have recently enriched my library with a copy of a work entitled "Lahore to Yarkand, Henderson and Hume."

"Let us now turn to (4) *torquatus*" [*Palæornis torquatus* (Boddaert)], "and first hear what our learned Dr. has to say" (*t. c.* p. 13); and Mr. Hume transcribes the passage wherein Dr. Finsch endeavours to substantiate his theory that the sexes in the adult birds wear a similar dress. Dr. Finsch's reasoning is not convincing; but the argument is conducted with perfect propriety, and his data, such as they are, placed fully before the reader. But Mr. Hume, by means of a mistranslation of a German word used by Dr. Finsch, tries to fasten on him the charge of speaking slightingly of Indian naturalists. "Dieser betrifft nämlich die angeblich grüne Färbung des ♀, wie sie von Blyth, Layard und Jerdon angegeben wird" (Papag. ii. p. 25). This sentence has been separately submitted to two German gentlemen, and, without mentioning any reasons, they were asked to translate it. One is a gentleman of the highest scientific distinction, the other an independent gentleman of education, both understanding, writing, and speaking English perfectly. By both it was thus rendered: "This (point), namely, relates to the alleged (angeblich) green coloration of the female as stated by Blyth, etc." By Mr. Hume the German word "angeblich" is translated "pretended;" and having laid, through this misrendering of its true meaning, the foundation of a charge of discourtesy against Dr. Finsch, he observes half a page further on: "Here then are Dr. Finsch's strong proofs; proofs which in his opinion justify his speaking of what Jerdon, Layard, Blyth, Hutton, and a dozen other Indian naturalists have stated as facts, the result of their personal observations, as '*pretences*'" (*t. c.* p. 14). I am also assured by my two German friends that there is neither in the sentence quoted, nor throughout Dr. Finsch's argument, a trace of discourtesy to any one, and that by no fair construction, more especially when judged by the context, can the word "angeblich" be here rendered by the English verb "pretend" in its offensive sense. It will also be observed that Captain Hutton's name, not to mention the "dozen other Indian naturalists," is introduced by Mr. Hume, although not alluded to by Dr. Finsch, and moreover although Mr. Hume must have been well aware that Captain Hutton had never published any remarks on Parrots previous to 1873 that could reasonably be known to Dr. Finsch*. Mr. Hume having, by this skilful introduction of the offensive word "*pretences*," created in the superficial reader a prejudice against Dr. Finsch, proceeds, with many italicized words and outbursts of infallibility, to discuss Dr. Finsch's "proofs," and then continues, "Nothing, we are again informed, is said of the young. Well let our oldest Indian naturalist, who knew all about these Paroquets long before Dr. Finsch was born, enlighten him" (*t. c.* p. 14). Captain Hutton's description of the young (Str. Feath. i. p. 339) is then quoted, the reference and date 1873 being omitted and the impression left on the reader's mind that something had been said of the young when Dr. Finsch wrote, and that somehow or other he ought to have known it.

Ibis, 1874, p. 283.

Ibis, 1874, p. 284.

Dr. Finsch, for his account of *Palæornis cyanocephalus* (Linn.), is next passed under the harrow. "Here, according to my views, Dr. Finsch has combined two distinct species. In the one, which I will call *purpureus*, Mull* (Dr. Finsch will set me† right, doubtless, about the synonymy)," etc.: then descriptions of the two species and their differentiating characters are fully given, wound up with "I do not entertain the smallest doubt that Dr. Finsch is in error in uniting these two forms . . . ." (*t. c.* pp. 15, 16). From this it might fairly be presumed that Dr. Finsch in or before 1868 had heard of there being two species, those alluded to by Mr. Hume, but had declined recognizing them as distinct. Nothing of the sort. Their existence was known to no one at the time; and Dr. Finsch adopted the published statements of Jerdon and Blyth, neither of whom then ever suspected that two closely allied geographical races were being confounded under one title. The fact was, however, first discovered by Mr. Gould, and first made known by Mr. Blyth in 1870. "*Palæornis rosa.* Some time ago Mr. Gould called my attention to two races confounded under this name, which are evidently distinct," etc. (Blyth, Ibis, 1870, p. 162). On Jerdon's return to England I showed to him skins of the two forms, and he at once admitted that they might fairly be considered as belonging to two species; and in 1872 (Ibis, (3) ii. p. 6) he published, in a supplementary note to the 'Birds of India,' his concurrence with Blyth's opinion. "My views" had therefore been long before held by Gould, Blyth, Jerdon, and other European naturalists; but they were first promulgated, and by Blyth, two years after the publishing date of 'Die Papageien.' The two supposed species of the late Mr. Gray's list of the *Psittacidæ* (1859, pp. 20, 21), *P. bengalensis* and *P. rosa*, were nothing but phases of the plumage of the Nepal bird. Ibis, 1874, p. 285.

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* As a matter of fact I believe there were no published remarks on the subject by Captain Hutton extant when Dr. Finsch wrote, much less by a "dozen other Indian naturalists."

We next come upon another illustration of Mr. Hume's logical obliquity. "We are told that 'Alas! the Indian ornithologists give us no satisfactory answer to many of the most difficult questions. Jerdon only says, that the female has a blue head and that the young are green'" (*t. c.* p. 16). "Alas!" is Mr. Hume's rendering of the German word "leider," and, with the note of exclamation introduced by Mr. Hume, helps to give the passage an air of contemptuous pity which is not in the original German. It is therefore necessary to quote Dr. Finsch's own words:—"Leider geben uns die indischen Ornithologen über viele derartige schwierige Fragen nicht die gewünschte Auskunft" (Papag. ii. p. 47). "Unfortunately the Indian ornithologists do not give us the wished-for information on many of the difficult questions of that class" is a fair translation of the passage; and Dr. Finsch's observation, being strictly accurate when he wrote, can only be met by Mr. Hume as follows, for he cannot quote the writings of a single author previous to 1868:—"Does he want 'a full, true, and particular account' from one who has taken scores of *purpureus* from their nest-holes and reared them by dozens? Let Captain Hutton speak; his synonymy is faulty, he is no cabinet naturalist, but he knows the *birds* as well as he does his own children" (*t. c.* pp. 16, 17). And then, as usual, follows an extract from Captain Hutton's paper (Str. Feath. i. p. 344) published five years after the publication of Dr. Finsch's work, but without the date and reference now given being quoted. Indeed the information the absence of which Dr. Finsch most justly regretted in 1868, is only supplied in 1873, and then in 1874 flung in his teeth for having wished for it.

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* *Sic.*

† Or rather the late G. R. Gray (Hand-list, no. 8054), who in his turn got the title from Cassin (P. Ac. N. Sc. Philadelphia, 1864, p. 239).

Further notice of Mr. Hume's criticisms in connexion with this species might be omitted did they not comprise the following gross personal insult to Dr. Finsch:—"Orange yellow wing-spot birds are common enough, and if he will pay the postage and *return* the specimen, I will send him one to look at" (*t. c.* p. 17). To the word "*return*," printed in italics, is appended this footnote, with which, I much regret, I must soil these pages by transcribing:—"This is not a matter of course, because a naturalist who begins by appropriating his neighbour's species, *may* end by annexing their specimens. As Dr. Finsch would doubtless say '*Facile*[*] *descensus, etc.*!'"

Ibis, 1874, p. 286.

Having delivered himself of this magnanimous sentiment, with its playful insinuation of a felonious tendency in Dr. Finsch, a passage which will only escape the indignant reprobation of all high-minded men, when it escapes observation, Mr. Hume proceeds to discuss Dr. Finsch's treatment of *Palæornis schisticeps*, Hodgson. After another offensive personality, a wretched joke about "his sensitive classical nerves!" Mr. Hume quotes and criticises thus:—"'According to Blyth' (and he might have added Hodgson who described the bird, Jerdon, and a dozen others). 'the females are only distinguished by the absence of the red-brown wing spot.' Blyth of course being *no* authority any more than other Indian ornithologists, Dr. Finsch continues, 'I am much more inclined to conclude that the red-brown spot would appear also in the full plumaged female,' in other words he through his supreme wisdom without having examined a single bird in the flesh, is intuitively better acquainted with the state of the case than skilled practical naturalists who have dissected scores" (*t. c.* p. 17, 18). Then comes in, as a *Deus ex machinâ*, the great, frequent dictatorial Ego [†], with ponderous yet impotent effect. "Let me tell Dr. Finsch, that I personally must have sexed some thirty specimens of this species, and that the following is my experience" (*l. c.*). Of the "experience" which follows, not having been published when Dr. Finsch wrote, it is unnecessary to give more than the first sentence, "The female *always* wants the deep maroon red wing-spot," because it relates to the point in dispute and does not strictly accord with either Jerdon or Blyth's account. Jerdon says "a marone wing-spot in the male, barely indicated in the female" (B. Ind. i. p. 261); Blyth, "The adult sexes differ in the male having a small maronne spot on the wing, which is wanting or barely indicated in the female" (J. A. S. B. 1850, p. 232). So that even according to both Jerdon and Blyth the small maroon wing-spot of the male, though barely indicated, does "appear" in the female. But Dr. Finsch must be judged by what he, through a diligent and conscientious study of their published writings, had gathered that his authors personally knew, and not by what Mr. Hume, in more than exaggerated terms, says they did know. And although the fact may surprise my readers, in the face of Mr. Hume's audacious assertions just quoted, it is a fact that neither Jerdon, when he wrote the first volume of the 'Birds of India,' nor Blyth were well acquainted with this species. Nor is there up to 1868 a tittle of published proof that any "skilled practical naturalist" had dissected a single specimen of this species, much less "scores." Jerdon writes (*t. c.* p. 261) "rare in the south-east, for I never saw it myself, and got but one young specimen

Ibis, 1874, p. 287.

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[*] What Dr. Finsch would "doubtless" have said, had he been quoting Virgil, is given in the *errata*.

[†] It may be here mentioned, as a matter of dry statistical detail, that apart from copious extracts from Dr. Finsch and Captain Hutton, and besides a host of "me's" "we's" "my's" and "us's," the first personal pronoun "I" occurs in the twenty-eight pages of this review at least one hundred and sixty-six times.

while at Darjeeling;" and what Jerdon relates about the species is derived from Tytler and Adams, both of whom have no remarks on the diversity of the sexes or about the plumage. Jerdon only became well acquainted with the bird when, subsequently to the publication of the first volume of his book, he visited the north-western Himalayas, where it is abundant. Blyth's acquaintance was not more extensive. It is almost certain that he had never seen the wild bird; for he had not been in the regions it inhabits. He probably may have seen caged specimens occasionally at Calcutta; but he says that captured specimens are seldom brought to that town (Ibis, 1863, p. 4). Who the "dozen others" are previous to 1868, I confess my total inability to even offer a conjecture; and possessing a fair acquaintance with Indian ornithological literature myself, I cannot blame Dr. Finsch for not knowing either.

Ibis, 1874, p. 288. A slight mistake in degree Dr. Finsch has committed, concerning the range of *P. schisticeps*, his impartial critic is "compelled to point out" (*t. c.* p. 18). Dr. Finsch states in general terms that it is found "in" (not "throughout," as Mr. Hume or his translator of German erroneously renders "im grössten Theile") "the greatest part of the Indian continent;" but he correctly enough gives in detail the range as known at the time he wrote. Its range is enormous; for it extends from Cashmere (Griffths is said to have observed it at Pushut), along the lower ridges of the Himalayas as far as Eastern Assam, and from Assam down to Pegu. Still, by some, Dr. Finsch's general statement might hypercritically be termed erroneous.

Now follows *Palæornis calthropæ*, Layard; and the facts connected with its history up to 1868 are few and simple. Few, because previous to the publishing date of Dr. Finsch's work only two naturalists had written about the species, namely Blyth and Layard. Blyth's part was confined to the description, on behalf of Layard, of two skins sent by Layard to Calcutta (J. A. S. B. 1849, p. 800). One of these, with "upper mandible bright coral, with a white tip; the lower reddish," Blyth determined to be a male; the other, with "both the mandibles dull coral with white tips," he characterized as belonging to a female or young male. Later (*op. c.* 1850, p. 234) mention is made by him of the receipt of three more specimens; but not one word is said about the characters whereby the sexes are distinguished, nor are they even described; and I cannot find a passage in any of Blyth's writings previous to 1868 where he defines the distinctions; and I believe this is all Blyth wrote or knew about this purely Ceylon species up to that date. Layard, in his "Notes on the Ornithology of Ceylon" (Ann. & Mag. N. H. (2) xiii. p. 263, no. 177), omitted all description of the bird, and merely gave an account of its habits. He said nothing whatever about the colouring of the sexes. This author never published previous to 1868 in any scientific work or elsewhere another word about *P. calthropæ*. Nor does Dr. Finsch appear to have been more successful in his search for information, and he is most particular throughout his admirable and exhaustive work in giving all references bearing on his subject. Kelaart, who, Ibis, 1874, p. 289. besides Layard, was the only ornithological author who may have seen *P. calthropæ* in "the flesh," merely includes its bare title in his list (Prodr. Faun. Zeylan. pp. xxx, 127). This embraces the sum total of the published facts regarding *P. calthropæ* up to 1868. And it was not until 1872 that it was made known that the female differed by having a black bill*

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* Mr. Holdsworth, as he obligingly has told me *in epist.*, did not arrive at this conclusion through having dissected a single specimen, but was guided by the experience of Mr. Bligh, who had killed many examples. It is just possible that Dr. Templeton may have published remarks on this species, but I have never seen any.

(Holdsworth, P. Z. S. 1872, p. 426, no. 65). Mr. Hume knows this species by its skin only. Let me transcribe his remarks:—"When we turn to *calthropæ*, Layard, it is the same story; on no evidence, but his own personal conviction, on the contrary in the face of all existing evidence, Dr. Finsch calmly says: 'Questions in regard to differences in the adult plumage, and to whether the male and female are always differently coloured, still lack in this species an altogether more rigorous investigation. The numerous phases of plumage which I have seen, permit me to assert with tolerable certainty an entire similarity in both sexes. Noteworthy and wonderful however, always remains the black colour of the bill in the younger birds.' But as a matter of fact, no further investigation is required, because a dozen different observers have cleared up the main point at issue *viz.*, the colour of the adult female's bill, but our author absolutely ignores all this because it is irreconcileable with his theory! Unlike the other species with which I have previously dealt, I have never myself shot or dissected examples of *calthropæ*, but I have more faith in human testimony than our author apparently has, and having a large series of specimens carefully sexed by three different European observers, I can state the following with 'tolerable certainty' independently of what better naturalists than myself have already recorded to a similar effect" (*t. c.* pp. 18, 19). I have given all the published facts within the possibility of Dr. Finsch's knowledge in 1868, and Mr. Hume's observations on Dr. Finsch's account of this Ibis, 1874, p. 290. species. Mr. Hume carefully abstains from stating the name of a single observer with whose investigations Dr. Finsch ought to have been acquainted, and "in the face of whose evidence" Dr. Finsch "flies." Nor does he dare to name one of the "dozen different observers" whom "our author absolutely ignores," nor of the "naturalists" who "have already recorded to a similar effect." Since Layard and Kelaart, that is since 1868, the only Ceylon naturalists who have written in any accessible, even if any, scientific journal on Ceylon ornithology are Holdsworth, Vincent Legge, and Hugh Nevill; and the first is the only one who has touched on the point at issue, and then only in 1872.

The next Indian species known to Mr. Hume, *Palæornis melanorhynchus*, Wagler, was divided by Dr. Finsch, guided by the evidence existing in 1868 (Papag. ii. pp. 66, 70), into two species—*P. lathami*, Finsch, with the maxilla red in both sexes, and *P. melanorhynchus*, Wagler, with the bill, in both sexes, black. Subsequent investigations have led to the conclusion that these are sexual differences, and that only the adult male possesses a red maxilla, while the young birds and adult females possess black bills (*conf.* Walden, Ibis, 1873, p. 297, no. 2). For his conclusion, erroneous though it may now prove to be, Dr. Finsch is assailed with a volley of silly invective. Let, then, the facts before Dr. Finsch, the facts recorded up to 1868, be examined. In the first place both Jerdon and Blyth confounded, by erroneous identification, the Indian bird and the Javan and Bornean *P. alexandri* (Birds of Ind. i. p. 263; Ibis, 1866, p. 353), and Dr. Finsch had therefore good grounds for being uncertain as to which of the two species they referred. Jerdon further described the bird has having "a large red* patch on the wing, formed by most of the lesser and some of the median coverts" (*l. c.*), which is not the case, as Dr. Finsch acutely remarks. Hodgson regarded the black-billed bird as belonging to a distinct species and named it *P. nigrirostris* (Gray, Zool. Misc. p. 85, 1844), and in the 'Calcutta Journal of Natural History' for 1847 (p. 560) its specific validity, its claim to rank as distinct from the Ibis, 1874, p. 291.

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* I suspect that the word "red" is a slip of the pen for yellow.

red-billed birds, is maintained. Mr. Blyth (J. A. S. B. 1846, p. 24, note) stated, "in *P. pondicerianus*, the upper mandible of the female is usually black, but often more or less mingled with red; that of the male being always bright coral-red." Writing in 1850 (*op. cit.* xix. p. 234) the same author states of this bird, "In a presumed female observed in captivity, the upper mandible changed from black to coral-red when the bird was about 18 months old." Later on (Ibis, 1866, pp. 353, 354), the last time Mr. Blyth wrote on the species, he says, "From an early age (before leaving the nest) the sexes differ in the male having the upper mandible coral-red *, while that of the female is black . . . . and in many females it perhaps remains permanently black, while in others it changes sooner or later to red." And he adds that he is "tolerably well acquainted with it, having spent a month in forests" with the species. Jerdon (*op. cit.* p. 263) describes the female in these words, "The female merely differs from the male by having a black bill at first, which changes to red in old or fully adult females." In the face of these conflicting opinions, is Dr. Finsch to be blamed for adopting an opinion of his own? and anyhow ought he to have been exposed to the insolent and insulting criticism which Mr. Hume, in relation to this species, heaps upon him? "(poor Jerdon and Blyth, always wrong! Finsch, the clever fellow, *always* right!!)" and then this observation on a remark of Dr. Finsch, "He adds with that deliciously bland assumption of superiority and omniscience which irradiates his pages" (*t. c.* p. 20). I will quote Dr. Finsch's opening words, "Ohne der Auctorität eines Blyth oder Jerdon zu nahe treten zu wollen" (*t. c.* p. 68). As to Jerdon's opinion on the moot point, it may be stated that up to the last he had not arrived at any decided conclusion. So uncertain was he, that by his advice, and in order to settle the question, a friend in Burma was written to and asked to collect and carefully mark the sex of as many specimens as he could obtain. And it may here be added that Jerdon felt and often expressed the highest admiration for Dr. Finsch's work on the *Psittacidæ* and respect for its author.

Ibis, 1874, p. 292.

"*Columboides*, Jerdon †, disguised under Dr. Finsch's new name *peristerodes*, is the next species" (*t. c.* p. 21). That the specific title *columboides* was not bestowed by Jerdon is probably known to every ornithologist in India, except Mr. Hume; for both in his "Illustrations," where this Parrakeet was figured, and in his general work, Jerdon, with his accustomed accuracy, attributed the title to the first describer of the species. The species was first named by the late Mr. Vigors, a cabinet naturalist, so far as Malabar birds were concerned. And to it Mr. Hume holds a similar position, for he has never seen it "in the flesh." Hence the personal knowledge he has acquired during the five years that have elapsed since Dr. Finsch's work was published cannot be flaunted before the enchanted gaze of credulous disciples nor hurled at the unoffending head of Dr. Finsch. Still faults, however microscopic, must be found. "Really the wonders disclosed by this work pass human comprehension! Dr. Finsch records an adult male, from the Himalayas, in the Leyden Museum, and an adult *female, precisely similar*, to the male, also from the Himalayas!! in Heine's Museum. What *Himalayan* female *columboides* may be like, no mere Indian ornithologist could presume to say. We leave that to Dr. Finsch" (*l. c.*), and so on *more suo*. From this disingenuous passage the trusting reader would gather that Dr. Finsch had stated that *P. columboides* occurred in the Himalayas. He has done nothing of the kind. He has merely, as is his habit all through the work, and as most accurate writers do, identified the specimen from which he made his diagnosis; in this fashion—"Himalaya (Leidener Museum). ♂ ad. Kopf, Rücken und, etc.; ♀ ad. (Himalaya) im Museum Heine, ganz wie das ♂ gefärbt" (*t. c.* pp. 74, 75). When we turn to the passage giving the full geographical distribution we find the complete range stated with a sufficient accuracy in these words, "an der Malabarküste, bei Madras, im Decan, bei zum 17° nördlich, selten in den Neilgherries, bis auf Höhen von 5000′" (*t. c.* p. 76). The Himalayas are not included. But even here, notwithstanding Mr. Hume magniloquently has said that he has "not taken in hand to catalogue Dr. Finsch's errors" (*t. c.* p. 18), the little slip of the pen "bei Madras" is not overlooked. For, big as the beam is which intercepts the reviewer's critical vision, he is here able to espy this small mote in his brother naturalist's eye, and it is seized upon with all the charitable avidity compatible with "friendly relations." "Finsch tells us that this species is found in Madras; if he means the town or *district* of Madras (Chingleput) then he is certainly in error—if he means the *presidency* of Madras, then since the places he enumerates, the Malabar coast and the Nilghiris are both *in* this Presidency, it is, to say the least, surplusage, calculated to mislead;" and so on (*t. c.* p. 23). To an old Madrasee, one who has shot along with Jerdon many a specimen "in the flesh," to say nothing of Snipe in the paddy fields of the Chingleput district, this phrase "*district* of Madras (Chingleput)" seems strange thunder. Madras was, and I believe is, a district by itself, with an area of some 30 square miles—bounded on the north by the Nellore district, to the west by the Arcot districts, and on the south by the Chingleput district, from which it is separated by the Adyar river. But this may be all changed, and the Madras and Chingleput districts may have been amalgamated *. If so, this local and parochial erudition in a high Bengal official is to be commended; but can it be reasonably expected from a European naturalist?

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* This is in direct opposition to what Mr. Hume lays down in the passage beginning "I too, who have seen thousands, and shot hundreds" (*t. c.* p. 20).

† *Sic.* This is not an accidental slip of the pen. At page 2, Mr. Hume writes "and Jerdon's *columboides.*"

Ibis, 1874, p. 293.

Of this species it may be also asserted that at the time Dr. Finsch wrote there was no published concurrent and convincing evidence on the moot point, the colouring of the bills in the two sexes. In the absence of adequate conclusive proof, Dr. Finsch maintained (*l. c.*), although with perfect deference to Dr. Jerdon, that the bills in the two sexes were coloured alike. I have frequently seen, and have shot, this species, and am inclined to think now, as I did then, that Jerdon's view is correct. Yet Sykes, an Indian ornithologist be it remembered, one who did not form his opinion from "half a dozen wrongly sexed skins in a Museum," but from his own observations in the jungle, regarded the black-billed bird as specifically distinct from *P. columboides*, and bestowed on it a distinctive title, *P. melanorhynchus*. "Found in the ghauts. Sexes alike. This bird has the aspects of *Pal. columboides*, but differs in the black bill," etc. (Sykes, P. Z. S. 1832, p. 97). No other writer knew the species "in the flesh" previous to 1868. Mr. Blyth only knew it from a few "skins in a museum," and Dr. Finsch seems, in spite of Mr. Hume's remark, to make a fair observation when saying "Blyth is uncertain and says of the black-billed birds 'female or young'" (*l. c.*). But surely Dr. Finsch, even if shown

Ibis, 1874, p. 294.

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* As a matter of fact I am informed *in epist.* by Sir Walter Elliot, the well-known and eminent Indian naturalist, that "Madras is certainly not included in Chingleput, but is a district by itself."

by more recent investigation to have been in error, had and has a right to hold, advocate, and express an independent opinion, without being liable to insult in terms like these. "As usual, Dr. Finsch laments our ignorance in regard to all these species. It is really a pity that he will not be content to speak for himself. That *he* has still somewhat to learn is patent in every page, but the Indian ornithologists whose distinct statements he so unceremoniously ignores, puts aside, or directly contradicts, unfortunately for his reputation, are not quite so much 'in tiefes* Dunkel' as himself" (*t. c.* p. 23). As I have shown, of the only three Indian ornithologists who had written, the first held one opinion, another the exact opposite, and the third, who only knew the species from a few museum skins, was uncertain. And yet Mr. Hume is a vindicator of truth. "It is not, however, for Dr. Finsch I write. Truth must be vindicated" (*t. c.* p. 26). Poor truth!

We now come to *P. erythrogenys*, Blyth. Dr. Finsch, in his account of the species, is, with an unaccustomed generosity, partly let off by Mr. Hume. For, in this instance, Dr. Finsch is not held responsible for not knowing in 1868 that the Andaman Parrakeet differed from the Ibis, 1874, p. 295. Nicobar *P. erythrogenys*—a fact, if it be a fact, only acquired by Mr. Hume in 1873. Indeed Dr. Finsch went wrong in consequence of his adopting the published opinions of Jerdon and Blyth; yet for this confidence in their superior authority he receives no credit from Mr. Hume. Both Dr. Jerdon (B. of Ind. i. p. 264) and Mr. Blyth on several occasions (Mouat's Andaman, Append. p. 355; Ibis, 1863, p. 5) regarded the Nicobar and Andaman Parrakeets as belonging to one species. As elsewhere, so here, it is Mr. Hume, and not Dr. Finsch, who differs from Jerdon and Blyth; and he will therefore doubtless apply to himself the epithets he has so freely bestowed on our German friend, whenever guilty of a similar heresy. But, we fear, 'that in the Captain's but a choleric word, which in the soldier is flat blasphemy.' Nor does Dr. Finsch receive complete absolution; for, relying on the descriptions of the specimens marked ♂ and ♀, obtained in the Nicobars by the 'Novara' scientific expedition, that of a female communicated to him by Herr v. Pelzeln, Dr. Finsch suggested that Blyth's determination of a specimen with a black bill as a female (J. A. S. B. 1846, p. 23) was erroneous, and that he had described a young bird. "Unfortunately, for Dr. Finsch, it does nothing of the kind. Apud Finsch, Blyth is always wrong and Finsch is always right," etc. etc. "And in every single instance in which in regard to species of this genus, Dr. Finsch has questioned, disputed, or denied the correctness of Jerdon, Blyth, and other Indian ornithologists' statements, it is *he* and not *they* who have erred" (Str. Feath. *t. c.* p. 25). Well, is this a fact? and, with regard to this species, does Dr. Finsch contradict Jerdon, Blyth, and other Indian ornithologists? It has already been shown that by not contradicting Jerdon and Blyth on several important points Dr. Finsch is, according to Mr. Hume, wrong. Blyth, it must be remembered, only described his *P. erythrogenys* from skins with sexes undetermined brought to him at Calcutta by Captain Lewis and the Rev. J. Barbe. Neither he nor Jerdon had "for a long series of years," not even for a single minute, "observed the free living birds, shot and dissected them," which, according to Mr. Hume, alone Ibis, 1874, p. 296. confers the right of stating an independent opinion. But what does Colonel Tytler say in 1867? That gentleman resided for some time in the Andamans as governor. He was an accurate observer, and discovered and described many good species. He had all the qualifications insisted on by Mr. Hume as alone entitling a man to deference; for he was not only a field naturalist, but something far higher, an Indian field naturalist. Colonel Tytler described the Andaman Parrakeet, his *P. affinis*, thus—"generally like *P. erythrogenys*, the red cheek-mark and coloration of which it possesses, but differs constantly in having a black bill" (Ibis, 1867, p. 320). Beavan adds, on Colonel Tytler's authority, "*P. erythrogenys* he" (Colonel Tytler) "has seen in all stages, and it always has a red bill" (*l. c.*). Nor is this all: Dr. Finsch, as above stated, founded his opinion on Herr. v. Pelzeln's description of a "sexed specimen" of a female in the Vienna Museum, obtained in the Nicobars "in the flesh" by the 'Novara' expedition. Three "sexed" as males, five "sexed" as females, and one specimen, with sex undetermined, came to the Vienna Museum. By what, then, was Dr. Finsch to be guided? Apart from Colonel Tytler's opinion, the conclusions of Mr. Blyth drawn from unmarked skins? or the statement of Herr v. Pelzeln, who had had the advantage of examining eight marked skins? Is it not allowable to assume that the zoologists attached to any European or American scientific expedition are capable of correctly determining by dissection the sexes of the specimens they obtain? But Mr. Hume readily disposes of this, I venture to submit, equitable argument in these words, "on the strength 'of an old female in the Vienna Museum' (palpably, to us who know the species, an old *male*)" etc. (*t. c.* p. 24). Unhappily Dr. Finsch, like most people, at least in Europe, not being gifted with a prophetic spirit, was unable to foretell in 1868 what "us who know the species" might know in 1874.

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* Corrected in the *errata*.

The same remarks will apply in the main to Mr. Hume's criticisms of the account given by Dr. Finsch of *Palæornis caniceps*, Blyth, the last of the nine good species of the genus within Mr. Hume's acquaintance. This handsome Parrakeet was likewise described from a single skin (much mutilated) with a red maxilla, brought to Calcutta by Captain Lewis from the Nicobars. Mr. Blyth in this instance also never saw the bird "in the flesh," much less dissected it. Indeed the type specimen was so much mutilated that Blyth introduces his description with these words, "This is a very strongly marked species; but I can now merely indicate rather than describe it," etc. (J. A. S. B. 1846, p. 23, note). As in the case of *P. erythrogenys*, Blyth adopted the foregone conclusion, a mere theory unsupported by a single then existing established fact, that while the adult male had a red maxilla that of the female would be black. Shortly afterwards Mr. Blyth (*t. c.* p. 51, note) described, as belonging to the female of *P. caniceps*, a single skin from Province Wellesley, with a black maxilla, in Dr. Cantor's possession. These were the only examples of the species Blyth had seen previous to 1868. One, the type, remained in the Calcutta Museum; the other was given by Dr. Cantor to the E. I. C. Museum, and subsequently passed to the British Museum, where Dr. Finsch examined it. Besides these at least two examples were obtained in the Nicobars by the 'Novara' expedition, one of which, with a red maxilla, was proved by dissection to be a female (Reise Novara, Zool. i. p. 98). Herr v. Pelzeln (*l. c.*) distinctly states this, and adds, which is significant, for there was no controversy at the time, "therefore the colouring of the bill is the same in old individuals of both sexes." Dr. Cantor's single specimen and the specimens obtained by the 'Novara' were the only known examples existing in Europe when Dr. Finsch wrote; and all that was known about the species was restricted to the sources I have indicated. The question therefore again arises, By what was Dr. Finsch to be guided? The affirmative evidence of the 'Novara' zoologists, derived from actual examination of the *corpus*? or Mr. Blyth's opinion formed from a couple of dried

Ibis, 1874, p. 297.

skins? Regardless of possible dangers they had gone ashore, seen the bird alive, breathed with it the same air, shot and dissected it! Blyth only knew it, not even from "half a dozen wrongly sexed specimens in a museum," but from one, a much mutilated skin in a museum, and a second good skin in private hands, but both with sexes undetermined by dissection. The inconvenient fact stated by Herr v. Pelzeln of the Nicobar female having a red maxilla is thus disposed of by Dr. Finsch's friendly censor, now growing "weary of exposing these" (Dr. Finsch's) "perpetual and perverse blunders" (*t. c.* p. 25). This specimen, "allow me to inform our author, *was* unquestionably a male, and had been, dissection or no dissection, *wrongly* sexed! We shot and sexed 25 adults of this species . . . . and we *know* beyond the possibility of a doubt, that Dr. Cantor and Blyth were perfectly correct," etc. etc. (*l. c.*). It is true that in a note quoted by Mr. Moore (P. Z. S. 1859, p. 454) Dr. Cantor states that the female has a black bill, and it was Mr. Blyth's foregone conclusion; for he says "the bill wholly black, as I suggested it would be in this sex" (*op. cit.* 1846, p. 51, note). But Dr. Cantor's opinion on an ornithological question could not be accepted as conclusive. An intimate friend of my own (many a friendly Manilla have we smoked together in Fort William), Dr. Cantor was no ornithologist. An excellent ichthyologist and herpetologist, he knew little, and professed to know nothing, about birds. What Mr. Hume was going to "*know* beyond the possibility of a doubt" in 1874 we again humbly submit, at the risk of being tedious, could not have been known to Dr. Finsch full five years before.

Ibis, 1874, p. 298.

I have now shown that the major part of Mr. Hume's criticisms of Dr. Finsch's treatment of these eleven species of the genus *Palæornis* are in a less or greater degree mainly founded on perversions, misstatements, or misrepresentations of the established facts existing when Dr. Finsch was writing 'Die Papageien,' or else on trivial inaccuracies of expression. Also that in no single instance do Dr. Finsch's references to Jerdon, Blyth, or other Indian naturalists, when fairly interpreted, exhibit even a breath of discourtesy or absence of deference, consistent with freedom of judgment, to any opinion expressed, or facts narrated, by them. And although Dr. Finsch may, by the light of recent investigations, be shown to have arrived at some erroneous conclusions, they were mostly logical inferences to draw from the conflicting evidence on record at the time he wrote. Towards the close of his article (*t. c.* p. 28) Mr. Hume has this passage, "I should ill fulfil my duty as editor of the sole Indian ornithological journal, if I did not rebuke, *sans façons*, his slighting treatment of the men to whom every Indian ornithologist owes so much." As an old Indian field ornithologist, as one of Dr. Jerdon's oldest friends, one in whom his memory lingers the most cherished of reminiscences, I protest against Mr. Hume's arrogating to himself the right to speak in the name of Indian ornithologists without better claim than the irresponsible editorship of a recent Indian ornithological periodical, or to exalt himself to the post of protector of Jerdon's, Blyth's, or any other Indian naturalist's reputation. The scientific works and deeds of those men are the common property of the scientific world, and not of a narrow Calcutta clique; and their memories are far safer from reproach under the guardianship of that great and increasing body of gifted, highly trained, and generous men, than if left to the patronizing care of a carping, indiscriminating, illiterate, and noxious advocacy. Mr. Hume is at liberty to "rebuke" whomsoever he pleases. His blame or his praise, at least his blame, will prove harmless. But Mr. Hume cannot evade the responsibilities of a reviewer. He cannot

Ibis, 1874, p. 299.

plead ignorance; for as a reviewer he is bound to bring to his task a reasonable amount of knowledge. Mr. Hume has most mercilessly attacked the scientific reputation of Dr. Finsch. I care not for the faint praise accorded to his minor merits. A reputation built up by many years of devoted and honourable labour in the cause of zoological science. A reputation as dear to him as our own is to any one of us, perhaps more so, perhaps his all. The coarse jokes or vulgar personalities, standing alone, might have passed unnoticed; for a coarse and vulgar style is some men's misfortune, and though exciting in supersensitive terperaments sensations of nausea, is submitted to by the philosophic mind with a shrug of the shoulder or a smile of resignation. But the unscrupulous reviewer of the hard conscientious work of a brother naturalist risks incurring that deserved odium which, by the common voice, attaches to the judgments of an unjust judge.

Descriptions of some new Species of Birds. By ARTHUR, Viscount WALDEN, P.Z.S., F.R.S.

[From the 'Annals and Magazine of Natural History,' ser. 4, vol. xiv., August 1874.]

A. M. N. H. ser.4.vol.xiv. p. 156.

ALCIPPE COLLARIS, n. sp.

Throat, chin, lores, a broad supercilium extending to behind the eye and down the side of the neck, white; a broad line extending from the nostrils over the eye, then bordering the white superciliary band above, and running down the side of the neck, black; cheeks and ear-coverts black; across the lower throat a broad ferruginous band or collar, separating the white throat from the dingy olive-brown plumage of the breast, flanks, and abdomen; thigh-coverts and under tail-coverts bright ferruginous; forehead, crown of the head, and nape ferruginous brown; back, scapulars, and upper tail-coverts olive-brown, with a ruddy tinge; rectrices above liver-brown; quills brown, edged exteriorly with liver-brown; shoulder-edge albescent dashed with ferruginous, under coverts the same; the median breast-feathers nearly pure white; bill black; legs (in dried skin) yellowish brown.

Wing 2·3 inches, tail 2·12, bill from nostril 0·36, tarsus 0·85.

Described from a male example obtained by Surgeon-Major F. Day at Sudya, Upper Assam, on the 12th of January, 1874.

This species possesses an especial interest, as it is a representative form of the Formosan *Alcippe brunnea*, Gould, an aberrant member of the genus.

GEOCICHLA ANDAMANENSIS, n. sp.

Geocichla innotata, Blyth, J. A. S. B. 1858, p. 270 ("Andamans").

Geocichla albogularis, Blyth, *apud nos*, Ibis, 1874, p. 138* ("Andamans").

When writing on Andaman birds (*l. c.*) I had not had the advantage of seeing examples of the Nicobar *Geocichla*, named *G. albogularis* by Mr. Blyth. Lately a considerable series has come under my observation; and a comparison made between them and Andaman examples makes it clear that they belong to a totally distinct species. Having already shown (*l. c.*) that the Andaman species differs from the Malayan *G. innotata*, it remains without a title; and therefore for the Andaman bird I propose the name given above.

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* [*Anteà*, p. 262.—ED.]

EURYCERCUS CINERASCENS, n. sp.

A. M. N. H. ser.4, vol. xiv. p. 157. Chin, throat, breast, cheeks, and under carpal coverts almost pure white; remainder of lower surface of body white, faintly washed with ashy grey, the flanks being dark ashy grey; a distinct white ring round the eye, formed by the minute feathers of the eyelids; above ashy olive, each feather, except those of the uropygium, boldly centred with brown; upper surface of the rectrices ashy olive like the back, the middle pair with a narrow dark brown central line on each side of the shaft; no striations or terminal marks on the rectrices; upper surface of the wing, when closed, ashy olive like the back, the secondary coverts being centred with brown; inner edges of the basal portion of the quill-webs underneath white, passing into tawny on the tertiaries. The tail consists of very broad feathers much graduated; legs (in dried skin) brown.

Wing 2 inches, tail 3·25, bill from nostril 0·28, tarsus 0·75.

Described from an example of a male obtained by Surgeon-Major Day at Dobri, Lower Bengal, on the 27th of November, 1873.

IANTHŒNAS NICOBARICA, n. sp.

Entire head, nape, cheeks, and neck dark French grey, chin and throat albescent grey; breast and abdomen darker grey than the head; feathers of the back and sides of the neck tipped with iridescent colours of changing green and pinkish violet; lower down a broad zone of dark grey feathers with bright green reflections, followed by an interscapular zone of iron-grey feathers with pinkish-violet reflections; lesser wing-coverts iron-grey, with semilunar terminal pinkish-violet edgings. All the iridescent tints described alter from green to violet or violet to green, according to the light in which the individual is held. Back, uropygium, and upper tail-coverts dark ashy grey, many shades darker than the head, and tinted with iridescent hues; quills and rectrices almost black; base of the bill and eyelids bright red.

Wing 9·75 inches, tail 6·50, bill from forehead 1·37, tarsus 1, middle toe with claw 1·87.

Described from examples obtained in Trinkut and Nangcowry islands, Nicobars, by Captain Wimberley.

Like *Ianthœnas palumboides* (Hume), this species possesses twelve rectrices, and is a true *Ianthœnas*. It is a representative form of the Andaman species, from which it is chiefly distinguished by wanting the pearly-white or greyish-white head, throat, and nape.

CARPOPHAGA PULCHELLA, n. sp.

A. M. N. H. ser.4, vol. xiv. p. 158. Head, neck, throat, breast, lower surface, and under wing-coverts delicate pale grey, deeply tinted on the crown, throat, and abdomen with a roseate hue; forehead pure white; a broad triangular patch on the nape rich cupreous chestnut; entire back, and all the wing-coverts and upper tail-coverts, rich copper-colour; first three primaries above dark slate-grey, the remainder washed with green; rectrices above green, with a cupreous tinge; under tail-coverts chocolate.

Wing 8·50 inches, tail 5·50, bill from forehead 1·25, tarsus 1, middle toe with claw 1·90.

Described from a male example obtained in the Tojian islands, Celebes, by Dr. Bernhard Meyer.

It is a representative form of *C. paulina*, but differs by being copper-coloured instead of green; its dimensions are also less.

ALCEDO BEAVANI.

At page 487* of the twelfth volume of this Journal I described as new, under the title of *Alcedo rufigastra*, a species of Kingfisher of which examples had been sent to me from the Andaman Islands. A specimen obtained by the late Captain Beavan in Maunbhoom, on comparison, proved to be identical ('Ibis,' 1874, p. 136)†. But as no such species had been procured on the Indian continent by any other collector, it occurred to me that Captain Beavan's specimen had become separated from his Andaman collection, and had accidentally acquired an erroneous locality. This conclusion subsequent discoveries now convince me was erroneous, and I unwittingly did injustice to my late friend's proverbial accuracy. I have since obtained examples from Assam. It has, I believe, been found at the foot of the Himalayas; and Mr. Ball writes to me that it has occurred in the Rajmehal hills, and he believes that it has also been obtained in Cuttack. Its claims to rank as a species belonging to the Indian continent is therefore established; and I wish, by changing the hybrid title of *rufigastra* to that of *beavani*, to commemorate the original discoverer of this species.

On Megapodius trinkutensis, *Sharpe*. By ARTHUR, Viscount WALDEN, P.Z.S.

[From the 'Annals and Magazine of Natural History,' ser. 4, vol. xiv., August 1874.]

A. M. N. H. ser.4, vol. xiv. p. 163.

IN the 'Annals' of this year (xiii. p. 448), Mr. Sharpe described a Megapode from Trinkut island (Nicobars) as belonging to a species distinct from *Megapodius nicobariensis*, Blyth.

At least four of the islands composing the Nicobar group are inhabited by a species of Megapode; but as Mr. Blyth did not record the name of the island which furnished him with the type of his species, it is impossible to say which is the habitat of *M. nicobariensis* A considerable series of individuals has recently reached me—consisting of six males, four females, and one unsexed from Camorta island, nine males, four females, and two unsexed from Nangcowry island, two males, three females, and one unsexed from Katschal island, and seven males, seven females, and one unsexed from Trinkut island; and they all belong to one species. Every phase of plumage is represented; and several of the Trinkut examples exhibit the French-grey tinge on the throat and sides of neck, as do some, but not all, from each of the other islands. *Megapodius trinkutensis* must therefore be regarded as equal to *M. nicobariensis*.

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* [*Anteà*, p. 252.—ED.]

† [*Anteà*, p. 260.—ED.]

Three of the forty-seven individuals I have received present a feature not hitherto recorded, namely a tendency to assume a naked callosity on the crown, as is observable in *Megacephalon maleo.* One, a female from Katschal island, has the occiput and vertex naked of feathers and covered with a black, hard, thick skin, overlapped in part by the lengthened frontal plumes. Another, a male from Camorta island, is similar; but the frontal plumes being shorter, the naked callosity is more evident. In a third, a female from Nangcowry island, the naked area extends almost from the forehead to low down the nape. At the anterior edge of the naked skin is a large fold, the true nature of which it is difficult to ascertain in the dry specimen.

A. M. N. H. ser. 4, vol. xiv. p. 164.

1875.

Ibis, 1875, p. 148.

Letter on Gecinus erythropygius, *Wardlaw Ramsay, from* Viscount WALDEN, P.Z.S., *to the* EDITOR *of* 'THE IBIS' (January 1875).

SIR,—In the P. Z. S. April 21, 1874 (p. 212, pl. xxxv.), a species of Woodpecker, obtained by Lieutenant R. Wardlaw Ramsay near Tonghoo, in British Burmah, was described as new, under the title of *Gecinus erythropygius.*

Somewhat later (P. A. S. B. May 1874, p. 106) the same species appears to have been described by Mr. Hume under the title of *Gecinus nigrigenis*, and again (Str. F. ii. p. 444).

The species, however, seems identical with *Gecinus erythropygius*, D. G. Elliot (N. Archiv. 1865, p. 76, pl. iii.), founded on an example (♀) obtained in Cochin China by M. Germain.

Yours,
WALDEN.

Dec. 1874.

Ibis, 1875, p. 250.

Descriptions of some supposed new Species of Birds. By Major GODWIN-AUSTEN, F.Z.S., and ARTHUR, Viscount WALDEN, F.R.S. [From 'The Ibis,' April 1875.]

SUTHORA MUNIPURENSIS, n. sp.

Desc. Crown of head cinnamon-brown, becoming more olivaceous or fulvous green on back; shoulder of wing greenish umber. Primaries black, the first four edged white, the rest crossed with a bright fulvous bar on the outer webs; the secondaries edged broadly with fulvous, and a few of the last tipped white on inner web. Tail ruddy fulvous at base, paling towards the end, which is dusky and indistinctly barred, a broad supercilium black, lores and narrow circle round the eye pure white. Ear-coverts and side of neck grey; chin and throat black, merging into pearly grey and white on the breast; under tail-coverts pure white.

Length 4·5 inches, wing 1·8, tail 2·4, tarsus ·77, bill at front ·28.

Obtained by Mr. William Robert, near Karakhul, Munipur hills.

SPHENOCICHLA, n. g.*

Bill longer than the head, conical, straight, and acute. Culmen, from region of the nostril to the forehead, much compressed; from nostril to apex swollen and flattened. Nostrils protected by a scale-like cover and shaded by dense nareal tufts. Commissure almost straight. Lower mandible flat-sided; gonys broad, more flat than rounded, but slightly curved. Tarsus strong, moderately long; hallux and claw well developed; outer toes equal and but slightly shorter than the middle. Wing short, rounded; first primary half as long as second; second, third, and fourth about equal; fifth longest. Outer pair of rectrices short; next pair shorter than remainder.

Ibis, 1875, p. 251.

SPHENOCICHLA ROBERTI, n. sp.

General coloration throughout dark umber-brown, richer on the wings and tail, which are closely barred with black; feathers of the nape and back edged with darker brown, and with an inconspicuous pale spot near tip; these spots are more defined on the side of the neck. The feathers of the throat, neck, and breast are lanceolate, with a white edging showing as V-shaped markings; towards the abdomen these become less conspicuous, and only a few white spots dot the flanks. Bill grey, pale beneath and at tip.

Length about 6·5 inches, wing 2·8, tail 3·0, tarsus ·93, bill at front ·87, depth at base ·4.

Shot on Hemes Peak, North Cachar hills, and also in the Munipur hills.

This anomalous form has the structure of a *Turdinus* and the bill of a *Stachyris*.

ACRIDOTHERES ALBOCINCTUS, n. sp.

Top of head glossy black, feathers rather elongated, and a white collar on back of neck; back dull grey-black, with a slight green tinge, and with a tendency to purple on the shoulders and wing-coverts. Tail black with green reflections. Primaries black, white at base, forming a wing-band; secondaries warm sepia-brown. Beneath dull but dark greenish grey. Upper tail-coverts black, tipped white, and arranged in bars. All the tail-feathers tipped with white, except the two centre ones. Bill and legs yellow.

Length about 9 inches, wing 5, tail 3·5, tarsus 1·4, bill at front ·91.

Appears numerous in Munipur valley, where the type was obtained.

PNOEPYGA ROBERTI, n. sp.

Ibis, 1875, p. 252.

Above olive-brown, each feather pale-centred and fringed or tipped with dark brown. Lores albescent. Between the eyes and the rictus black. A well-defined streak extending from above the eye down each side of the head, fulvous. Ear-coverts cinereous at base, brown towards the tips. Chin and throat pure white, each throat-feather being terminated by a small black triangular drop; as the tips of the feathers overlap, these drops form continuous black lines, the two principal ones descending from the angles of the under mandible. Cheeks ferruginous, each feather with a black terminal drop. Pectoral and abdominal feathers pale brown, with broad pure white or fulvous-white centres. Under tail-coverts bright ferruginous yellow. Plumage on the rump loose, soft, and dense, completely concealing the short tail, and being of an almost uniform ferruginous-brown colour. Wings, when closed, dark chocolate-brown, most intense on the secondaries. Most of the wing-coverts distinctly tipped with almost pure white, so also the inner tertiary quills. Rectrices chocolate-brown. Mandibles dark brown. Legs pale horn-brown.

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* This may be the same genus as that named *Heterorhynchus* by Mandelli; but if so, that title cannot stand, having been previously employed by Lafresnaye.

Bill from nostril ·37 inch, wing 2·15, tarsus ·75, tail 1·15.

Described from specimens obtained at Chakha, in the Munipur hills, and also at Asalu.

In general appearance this bird closely resembles *Turdinus brevicaudatus.* The upper plumage of the two is almost identical. By its much smaller dimensions and diminutive tail, however, it can be readily distinguished. It is the *Pnoepyga caudata*, Blyth, apud Godwin-Austen (J. A. S. B. 1870, p. 101. no. 331).

PNOEPYGA CHOCOLATINA, n. sp.

Above olive-brown, each feather fringed with a somewhat fainter tint, thus imparting a subdued scaly aspect to the back. Wings and tail chocolate-brown. Upper and under tail-coverts ferruginous brown, brightest on the under coverts. Lower surface generally ferruginous brown, many of the abdominal feathers being largely centred with white or Ibis, 1875, p. 253. fulvous white. Pectoral feathers with minute terminal white drops, or some with narrow white or fulvous white centres. A few almost pure white feathers on the middle of the breast. Chin white; gular feathers white, with pale fulvous or ferruginous edges. Bill dark brown. Legs pale flesh-colour.

Bill from nostrils ·25 inch, wing 1·87, tarsus ·75, tail 1·75.

Described from a specimen obtained at Kedimai, in the Munipur hills.

This species and *P. longicaudatus* constitute a section of the genus *Pnoepyga*, in which the tail is fully developed.

Ibis, 1875, p. 270.

Letter on an abnormal Specimen of Palæornis melanorhynchus, *Wagler, from* Viscount WALDEN, P.Z.S., *to the* EDITOR *of* 'THE IBIS' (April 1875).

SIR,—Among a number of very interesting species of birds recently collected in Munipur, and intrusted to my charge by Major Godwin-Austen, is a specimen of *Palæornis melanorhynchus*, Wagler, in luteous plumage. With the exception of the breast, which is tinted with the rosy plum-colour found in the normal plumage, the whole bird is bright canary-yellow. The rosy breast-feathers, however, are normally coloured only at their termination; far underneath they too are bright yellow, an indication of that colour being only observable in the breast-plumage of the normal dress.

Yours,
WALDEN.

Chislehurst, March 1875.

A List of the Birds known to inhabit the Philippine Archipelago. By ARTHUR, Viscount WALDEN, F.R.S., President of the Society. [From the 'Transactions of the Zoological Society,' vol. ix. part. ii., April 1875, Plates XXIII.–XXXIV. *in. orig.*] (Read June 3, 1873.) Tr. Z. S. ix. p. 125.

IN the month of December 1871 and the first three months of the following year some of the principal islands of the Philippine archipelago were visited by Dr. A. Bernhard Meyer, the well-known German naturalist. During that short period this indefatigable collector obtained a large series of ornithological specimens, representing ninety-six species. The islands visited by him were Luzon, Negros, Zebu, Cujo, and Guimaras, the last being a small island adjoining the southern coast of Panay, and lying in the channel which separates Panay from Negros. Hitherto most of the authentic so-called Philippine specimens of birds contained in European collections have been procured in Luzon, collected at no very great distance from the town of Manilla, its capital; and nearly all the zoological travellers who have visited the Philippines have confined their researches to the vicinity of that town. It follows, consequently, that "the Philippines," so frequently occurring as a geographical expression in our lists, from the days of Brisson to the recent date of Mr. G. R. Gray's 'Hand-list,' must be taken to mean the country adjacent to the town of Manilla. To this rule Sonnerat is an exception.

After residing at Manilla, and forming collections in the interior of Luzon, Sonnerat visited Antigua, the capital of the island of Panay, and then Zamboanga, the chief Spanish settlement in the large island of Mindanao. Panay does not seem to have been revisited by any ornithologist*; but in 1839, D'Urville's second expedition in the 'Astrolabe' remained two months at Zamboanga, and obtained a few zoological specimens.

It is possible that the late Mr. Hugh Cuming may have visited all these localities and many others during his long residence in the Philippines; but as his large collection of birds was broken up without being catalogued, and as they were brought to Europe at a time when geographical distribution attracted less attention than now, we possess no published record of the exact localities where his specimens were obtained†.

After Sonnerat fifty-eight years appear to have elapsed before the Philippines were again visited by an ornithologist, when in 1829 Kittlitz touched at Manilla, and there procured several undescribed species. Since that date Manilla has been visited from time to time by different travellers and exploring-expeditions, and new species have been obtained, which on being brought to Europe have been described and named‡. In 1871 new ground was broken by Mr. L. C. Tr. Z. S. ix. p. 126.

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* At least there does not appear to be any published record of Panay having been again visited, although Mr. Cassin (U.S. Expl. Exped. p. 143) certainly enumerates an example of *Irena cyanogastra* as having been obtained in this island.

† A large portion of his ornithological collection was made in the southern part of the island of Luzon (*cf.* P. Z. S. 1839, p. 93); but it has since become scattered, and the origin of many of the individual specimens cannot now be identified.

‡ For a full account of the principal ornithological collectors in the Philippines, *cf.* Dr. v. Martens, Journ. f. Orn. 1866, p. 5.

Layard, who made a small collection of birds in the islands of Negros and Guimaras [*]; and, lastly, Dr. A. Bernhard Meyer has explored the equally unknown island of Zebu. Dr. Meyer having with great courtesy placed the bulk of his collection at my disposal, it was my original intention to have confined myself to a bare catalogue of its contents; but, it having been suggested to me that a complete list of the known Philippine [†] birds would prove more generally useful, and would supply a want much felt in the ornithological literature of the Indian region, I have ventured, with much diffidence, to prepare this catalogue of authentic Philippine birds. It is true that a valuable list of the Philippine birds has already been published (in 1866) by Dr. Eduard v. Martens [‡], from which I have derived the greatest assistance; still in it several authentic species are omitted, in some instances titles belonging to the same are treated as belonging to distinct species, and, moreover, some new species have been discovered and described since Dr. v. Martens wrote. Nor in the somewhat intricate synonymy is the subject in all instances exhaustively dealt with; and it has been one of my objects to endeavour to fix on a firm basis the nomenclature of all the birds known to possess a Philippine origin.

The literature of the subject practically commenced with Brisson [§], who in his well known work published original descriptions of many species said to have been obtained in the Philippines. Most of these are true Philippine species; but several of them were obtained in other parts of the world, and have no claim to a Philippine habitat.

Tr. Z. S. ix. p. 127.

The next, and certainly the most important, writer was the French traveller Sonnerat. He described and figured sixty-five species as having been obtained by him when in the Philippines; but recent researches tend to prove that only thirty are inhabitants of that archipelago. Several of his species remain to this day undetermined; yet the descriptions and figures were probably taken from actual specimens; for, although frequently most inaccurate in the localities assigned, Sonnerat does not appear, like Levaillant, to have wilfully described manufactured species or given false habitats. Besides the species made known in his 'Voyage to New Guinea,' Sonnerat brought to Paris several Philippine specimens, which were subsequently described by Buffon or by Montbeillard, and figured by D'Aubenton. On many of the Brissonian descriptions Linnæus founded titles; and to nearly all the plates in Sonnerat's work Scopoli, and after him Gmelin, gave binomial designations; while some of the species described in the 'Histoire Naturelle,' or figured in the 'Planches Enluminées,' received names from either Ludwig Statius Müller, Gmelin, or Latham, and in some cases from all of these writers. Subsequent authors generally named the species they described; and consequently little difficulty is encountered in the endeavour to recognize their species.

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[*] *Cf.* Ibis, 1872, p. 93 [*anteà*, p. 114].

[†] I restrict the term Philippines to that group of islands which is separated from Northern Borneo by the Balabac Strait and the Sea of Mindoro, exclusive of the Sooloo archipelago, and from Celebes by the Sea of Celebes. It may be necessary when the fauna of the Sooloo archipelago is better known, to include it also within the Philippine area; but, on the other hand, when the fauna of the island of Palawan has been investigated, that may have to be separated from the Philippine area. The positions both of Palawan and of the Sooloo Islands (at present all but zoological blanks) are of the highest geographical interest; for Palawan, stretching out for 260 miles, unites the northernmost point of Borneo to Luzon through the Calamines, while the island of Mindoro and the islands of the Sooloo archipelago form a succession of connecting links between Mindanao and the most north-east point of Borneo.

[‡] Journ. f. Orn. 1866, pp. 8–31.

[§] No titles were founded on the Jesuit Camel's well known paper, "De Avibus Philippensibus." The following is a list of the principal authors who have written on Philippine ornithology:—

BRISSON, M. J. Ornithologia (1760).

SONNERAT. Voy. à la Nouvelle Guinée (1776).

VIGORS. P.Z.S. 1831.

V. KITTLITZ. Mémoires présentés à l'Acad. Imp. Sc. de St. Pétersb. vol. ii. (1833). Kupfertafeln z. Naturgesch. d. Vögel (1832–33). Lütke, Voy. autour du Monde (Postels), vol. iii. (1836).

J. F. MEYEN. Nov. Act. Acad. C. L. C. Nat. Cur. vol. xvi. suppl. prim. (1834).

EYDOUX et SOULEYET. Voy. autour du Monde sur la Bonite. Zoologie, vol. i. (1841).

PEALE. Zool. Un. St. Expl. Exped. 1st edition (1848).

JACQUINOT et PUCHERAN. Voy. au Pôle Sud sur l'Astrolabe et la Zélée. Zoologie, vol. iii (1853).

CASSIN. Unit. St. Expl. Exp. Ornith. 2nd edition (1858).

E. v. MARTENS. Preussische Exped. nach Ost-Asien. Zool. (1865). Journal für Ornithologie (1866).

WALDEN & LAYARD. Ibis, 1872, p. 93 [*anteà*, p. 114].

The first and only attempt to construct a complete list of the Philippine avifauna was made by Dr. v. Martens, to whom I have already alluded. That learned naturalist enumerates 194 * species. From these I have been obliged to deduct 24,—4 from being undeterminable, 7 because they are not found in the Philippines, 2 because the Philippine habitat is not satisfactorily established, and 11 because they bear as distinctive titles the synonyms of species already catalogued under other titles.

Thus this list is reduced to 170 species, to which I have been able to add only 49, making the number of authentically known Philippine birds 219. This number is small, and may be eventually increased when the archipelago has been more completely investigated. Yet it may be fairly doubted whether the Philippines will ever be found to be so rich in species as the remainder of the Indo-Malayan subregion. Our knowledge of this avifauna is not sufficient to support any general conclusions; but enough is known to establish the fact that the Philippine archipelago, like Celebes, is a border land, linking, as it were, the Papuan and Indian regions. Tr. Z. S. ix. p. 128. As we quit the mainland of the Indian region in the south-east, it is well known that the Indo-Ethiopian types diminish in number; and in the Philippines, as in Celebes, they may be said to be at their minimum. But along with them many Indo-Malayan types also disappear from both these insular areas; while, on the other hand, they are replaced by peculiarly Papuan generic forms, and by a few peculiar forms not in numbers sufficient to balance the absence of the Indo-Ethiopian and the Indo-Malayan. We consequently find an ornis more anomalous in its admixture of forms, but poorer as regards species. So far as we know, it may be asserted that, after Celebes, the Philippine archipelago is the least rich in Indian genera and species of all the subareas of the Indian region; while, like Celebes, it is stamped with a marked Papuan character by the presence of *Cacatua* and *Megapodius*, and by its richness in members of the *Psittacidæ*, *Alcedinidæ*, and *Columbidæ*.

A glance at the table below will show the dearth existing in the Philippines of Indo-Malayan forms. Nine of these absent genera occur in Celebes, while the remaining sixty genera are wanting in both areas. On the other hand, thirty Indo-Malayan genera wanting in Celebes occur in the Philippines.

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* The numbering reaches to only 192; but *Dasylophus cumingi*, although catalogued, is not numbered, and the number 154 is repeated.

[‡] Table I.—Showing the principal Indo-Malayan Genera wanting in the Philippines.—N.B. Those occurring also in Celebes are marked with an asterisk.

*Polioaëtus.
*Neopus.
Ketupa.
Bulaca.
Phodilus.
Batrachostomus.†
Eurylaimus.
Psarisomus.
Corydon.
Cymbirhynchus.
Calyptomena.
Nyctiornis.
Chalcoparia.
*Anthreptes.†
*Æthopyga.†
*Arachnothera.†
*Prionochilus.†
*Geocichla.
Brachypteryx.
*Trichastoma.†
Mixornis.†
Malacopteron.
Macronus.†
Alcippe.
Timalia.
Garrulax.
Pomatorhinus.
Pteruthius.
Analcipus.
Myiophonus.
Phyllornis.†
Iora.†
Brachypodius.†
Iole.
Criniger.†
Enicurus.
Platylophus.
Tephrodornis.
Buchanga.†
Dissemurus.
Chaptia.
Bhringa.
Hemipus.
Tchitrea.
*Myiolestes.
Cissa.
Temnurus.
Dendrocitta.
Crypsirhina.
Eulabes.†
Ploceus.
Mirafra.
Palæornis.
Megalaima.
Meiglyptes.
Hemicircus.
Micropternus.
Crysophlegma.
Tiga.†
Sasia.
Dendrophila.†
Rhopodytes.
Coccystes.†
Peloperdix.
Perdicula.
Pavo.
Argusianus.
Polyplectron.†
Euplocamus.

The number of species peculiar to the Philippine archipelago, namely 106, amounts to nearly half of the total of known Philippine birds. This proportion is considerably less in the island of
Tr. Z. S. ix. p. 129. Celebes, where, out of a known total of 205 species, 73 only are peculiar to the island. Not one single species is common to the Philippines and Celebes which does not at the same time possess a more extended range; and *Prioniturus* is the only genus which is common to the two areas and unknown to extend beyond. The Papuan affinities of the Philippine ornis are only generic; for no Philippine species with a Papuan range occurs which does not also range into other areas. On the other hand, the great bulk of Philippine birds, exclusive of the Palæarctic (which are nearly all migratory forms), are Indo-Malayan in character; but here, again, the Indo-Malayan affinities are mostly generic, and not specific—a result easily explained by the fact that, of the 150 Philippine species belonging to the Rapaces, Picariæ, Passeres, and Columbæ, 96 are peculiar to the archipelago.

The table annexed shows that the whole of the Philippine members of the families *Psittacidæ*, *Cuculidæ*, *Bucerotidæ*, *Pittidæ*, *Irenidæ*, *Paridæ*, *Meliphagidæ*, *Nectariniidæ*, and *Dicruridæ* are peculiar to the archipelago, while the greater proportion of the *Strigidæ*, *Picidæ*, *Alcedinidæ*, *Campephagidæ*, *Muscicapidæ*, *Brachypodiidæ*, *Corvidæ*, *Treronidæ*, and *Columbidæ* are also unknown beyond its limits.

[‡] [This table has been modified by subsequent research. The genera marked with a dagger have since been ascertained to occur in the Philippine Archipelago as restricted by Lord Walden, *anteà*, p. 294, footnote.—Ed.]

TABLE II.—Showing by Families the proportion of Species peculiar to the Philippine Islands.

Families.	Number of Species.	Number peculiar.
Psittacidæ	9	9
Falconidæ	15	4
Strigidæ	4	3
Picidæ	6	5
Trogonidæ	1	1
Meropidæ	2	1
Coraciidæ	1	0
Alcedinidæ	12	7
Capitonidæ	2	0
Cypselidæ	2	4
Caprimulgidæ	3	3
Cuculidæ	9	9
Bucerotidæ	4	4
Laniidæ	3	1
Artamidæ	1	0
Campephagidæ	6	4
Dicruridæ	2	2
Muscicapidæ	6	4
Hirundinidæ	2	0
Oriolidæ	2	2
Turdidæ	2	0
Pittidæ	2	2
Crateropodidæ	2	0
Irenidæ	1	1
Brachypodiidæ	4	3
Saxicolidæ	5	2
Sylviidæ	6	4
Motacillidæ	4	1
Paridæ	1	1
Meliphagidæ	1	1
Nectariniidæ	4	4
Certhiidæ	1	1
Corvidæ	1	1
Sturnidæ	4	2
Fringillidæ	1	0
Ploceidæ	4	3
Treronidæ	10	7
Columbidæ	4	3

Tr. Z. S. ix. p. 130.

Families.	Number of Species.	Number peculiar.
Gouridæ	4	1
Phasianidæ	1	0
Tetraonidæ	2	1
Turnicidæ	1	1
Rollulidæ	1	1
Megapodiidæ	1	0
Charadriidæ	8	0
Glareolidæ	1	0
Gallinulidæ	4	1
Rallidæ	8	2
Parridæ	1	0
Scolopacidæ	9	0
Ardeidæ	11	1
Anatidæ	4	2
Procellariidæ	1	0
Laridæ	5	0
Podicipidæ	1	1
Pelecanidæ	6	0
Plotidæ	1	0

By the subjoined table (Appendix), showing the geographical distribution of all the known Philippine species, it will be seen that 11 of the genera are peculiar, namely *Pseudoptynx*, *Dasylophus*, *Lepidogrammus*, *Penelopides*, *Pseudolalage*, *Zeocephus*, *Rhabdornis*, *Sarcops*, *Phabotreron*, *Ptilocolpa*, and *Amaurornis*.

It will be further observed that the precise habitat of 57 Philippine birds remains still unrecorded, and that out of the total number of Philippine species 91 are recorded from Luzon alone. Of the 102 species known to inhabit other islands of the archipelago, 40 possess also a Luzon habitat. If we assume, which we may fairly do, that the 57 species classed under the general term of Philippine in the table are nearly all, if not all, inhabitants of Luzon, the total number of species known to inhabit that island will be 190. The number of species known to inhabit the remaining islands is given at the bottom of their respective columns, the incompleteness of our knowledge with regard to them being illustrated by the small total of 19 representing the number of authentic species in the large and important island of Mindanao, and also by the entire and enforced omission of many other large islands. Of Mindanao, with an estimated area of 36,000 square miles, the few species we know come from the immediate neighbourhood of Zamboanga. Of Luzon, the whole of the island north of Manilla has yet to be explored. The islands of Palawan, Mindoro, Samar, Leyte, Masbale, Bohol, the Calamines, and the multitude of smaller islands are almost absolutely unknown.

Tr. Z. S. ix. p. 131.

As might be anticipated from analogy with other isolated areas, some of the Philippine islands, although only separated by narrow seas, possess species peculiar to themselves. Although well defined, these are strictly representative forms. Those that are known are given below; and doubtless many more cases of representation will be discovered when the islands have been more thoroughly explored.

Table III.—Showing the Representative Forms which are known to inhabit the Philippines only.

	Luzon.	Panay.	Negros.	Zebu.	Mindanao.
Loriculus philippensis	*				
—— regulus	..	..	*		
—— hartlaubi	..	..	..	..	*
—— chrysonotus	..	..	..	*	
—— occipitalis	..	..	..	..	*
Chrysocolaptes hæmatribon	*				
—— xanthocephalus	..	..	*		
Actenoides hombroni	..	..	..	..	*
—— lindsayi	*				
Penelopides manillæ	*				
—— panini	..	*			
Dicrurus balicassius	*				
—— mirabilis	..	..	*		

Only one species is common to a Philippine island and to any one other non-Philippine island—namely *Xantholæma rosea*, which is restricted to the islands of Negros and of Java. *X. hæmacephala*, the common Luzon Barbet, which ranges all over India and is found in Sumatra and the Malay peninsula, does not seem to occur in Negros, where *X. rosea* appears to represent it, as it also does in Java.

It is also a remarkable fact that the only Philippine representative of the highly characteristic Indian family of the *Pericrocotidæ* is the abnormal and only migratory member of the group, *P. cinereus*.

PSITTACI.

Tr. Z. S. ix.
p. 132.

PLYCTOLOPHIDÆ.

Cacatua, Vieillot.

1. *Cacatua hæmaturopygia.

Cacatua minor, Brisson, Orn. iv. p. 212, no. 11, "Philippines."

Le petit Kakatoës à bec couleur de chair, Buffon, Hist. Nat. vi. p. 96 (*patr. non indic.*).

Petit Kakatoës des Philippines, D'Aubenton, Pl. Enl. 191.

Psittacus hæmaturopygius, L. S. Müller, S. N. Suppl. p. 77, no. 51 (1776), ex Buffon; Walden & Layard, Ibis, 1872, p. 96†.

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* Species with an asterisk prefixed are peculiar to the Philippines.

† [*Anteà*, p. 116.—Ed.]

Psittacus philippinarum, Gm. S. N. i. p. 331, no. 95 (1788), ex Brisson; O. Finsch, Monogr. Papag. i. p. 310; v. Martens, J. f. O. 1866, p. 21, no. 112.

Lophochroa minor (Briss.), O. Finsch, Nederl. Tijdschr. Dierk. Berigten, 1863, p. xxiii, "Luçon."

Hab. Luzon, Guimaras, Negros (*Meyer*).

No discernible distinction between the sexes, except that in the male (*fide* Meyer) the wing exceeds by about half an inch that of the female.

Dr. B. Meyer has kindly obliged me with the following remarks:—"The Philippine *Cacatua* is *wild* on all the different islands I visited. All my specimens were *shot in the forest.* It abounds on Luzon, Guimaras, Negros, in the forests; there I saw it *myself*; but I do not doubt it will be the same on the other islands."

PSITTACIDÆ.

PRIONITURUS, Wagler.

2. * PRIONITURUS DISCURUS.

Psittacus discurus, Vieillot, Gal. des Ois. i. p. 7, pl. 26, "Mindanao" (1825)†.

Psittacus spatuliger (♀), Bourjot, Perr. pl. 53, "Mindanao" (1837–8).

Pionias discurus (Vieill.), O. Finsch, Monogr. Papag. ii. p. 401.

Urodiscus discurus (Vieill.), G. R. Gray, Hand-list, no. 8047, "Philippine Isl."

Urodiscus spatuliger (Bourjot), G. R. Gray, *tom. cit.* no. 8048, "Manilla."

Hab. Luzon, Guimaras (*Meyer*); Mindanao (*Cuming*).

An example from Guimaras (♀ *fide* Meyer) has the top and back of the head turning to blue, as in the male, and closely resembles a male from Luzon.

A Luzon individual (♂ *fide* Meyer) has the entire body-plumage bright yellow-green without any traces of blue or verditer about the head. All the lateral rectrices have a broad deep-blue terminal band, much fresher and more intense in colour than in the adult male. Wing slightly shorter; but naked shafts of middle rectrices quite as long as in the adult male. Seemingly first plumage.

Tr. Z. S. ix. p. 133.

Another from Luzon (♂ *fide* Meyer), in the same uniform light-green plumage, but with the blue of the terminal caudal band less intense, the wing much shorter, and the shafts of middle rectrices naked only on one side, the naked part not exceeding a quarter of an inch. A still younger bird.

In an old Guimaras male the naked shafts measure an inch only, instead of two and a half or three inches.

If all these examples are correctly sexed, the adult male and female plumages do not differ.

I agree with Dr. O. Finsch (*tom. cit.* p. 404) in uniting *P. discurus* and *P. spatuliger*.

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† Dr. O. Finsch (*l. c.*) gives 1834. 1825 is the date on the titlepage of the first volume; but as the work appeared in parts, the date of the second part is probably earlier than even 1825. The plate is quoted in the Tableau Encyclopédique, vol. iii. p. 1369, published in 1823.

Tanygnathus, Wagler.

3. * Tanygnathus luconensis.

Psittacus lucionensis, Brisson, Orn. iv. p. 295, no. 41, "Luçon."

Psittacus lucionensis, Linn., S. N. i. p. 146, no. 31 (1766), ex Briss.

La Perruche de l'isle de Luçon, Sonnerat, Voy. Nouv. Guin. p. 80, pl. 44.

La Perruche aux ailes chamarées, Buffon, Hist. Nat. vi. p. 151.

Perroquet de l'isle de Luçon, D'Aubent. Pl. Enl. 287.

Psittacus marginatus, L. S. Müller, S. N. Suppl. p. 77, no 54 (1776), ex Buffon.

Psittacus gala, Bodd. Tabl. Pl. Enl. p. 17 (1783), ex D'Aubent.

Psittacus pileatus, Scopoli, Del. Fl. Faun. Insubr. ii. p. (85) 86, no. 21 (1786), ex Sonn.

Psittacus olivaceus, Gm., S. N. i. p. 326, no. 76 (1788), ex Buffon.

Psittacus marginatus, Gm., *tom. cit.* p. 324, no. 71 (1788), ex Sonn.

La Perruche aux ailes chamarées, Le Vaillant, Perr. pl. 60.

Psittacus phrygius, Shaw, Gen. Zool. viii. pt. 21. p. 421 (1811), ex Le Vaillant.

Eclectus luconensis (Linn.), O. Finsch, Monogr. Papag. ii. p. 362.

Tanygnathus muelleri, ap. Walden & Layard, Ibis, 1872, p. 95†, "Negros."

Hab. Luzon, Guimaras (*Meyer*); Negros (*L. C. Layard*).

An old male from Guimaras, with the whole head, the nape, and cheeks blue, has the uropygium green without a trace of blue.

A Luzon female (*fide* Meyer) has the forehead, crown, and cheeks green, and only the back part of the head and the nape blue, a verditer shade on the uropygium. A Luzon male (*fide* Meyer) exactly resembles the last, but has the middle of the back blue like the nape. Dimensions in all three alike.

Cyclopsitta, Hombron & Jacquinot.

4. * Cyclopsitta lunulata.

Petite Perruche à collier de l'isle de Luçon, troisième espèce, Sonn. Voy. Nouv. Guin. p. 77, pl. 39.

Psittacus lunulatus, Scopoli, Del. Fl. Faun. Insubr. ii. p. 86, no. 24 (1786), ex Sonn.

Psittacus torquatus, Gm. S. N. i. p. 351, no. 134 (1783), ex Sonn.; Lear, Illustr. Psitt. pl. 40. Tr. Z. S. ix. p. 134.

Psittacus loxia, Cuv. Mus. Paris, Lesson, Tr. p. 204, "Manilla," adult (1831); Pucheran, Rev. et Mag. Zool. 1853, p. 163; Bourjot, *tom. cit.* pl. 94.

Psittacula squamo-torquata, Bourjot, Perr. pl. 97 (1837–8), ex Lear.

Cyclopsitta loxia (Cuv.), Bp. Rev. et. Mag. Zool. 1854, p. 154.

Psittacus lunulata et *loxias*, O. Finsch, Monogr. Papag. ii. pp. 616, 618; v. Martens, J. f. O. 1866, p. 21, nos. 118, 117; G. R. Gray, Hand-list, nos. 8377, 8376.

Psittacula lunulata, Gray, Schlegel, Mus. Pays-Bas, *Psittaci*, p. 72.

Hab. Luzon, both forms (*Meyer*); Mindanao, both forms (*Cuming*).

P. lunulatus, Scop., and *P. loxia*, Cuv., are treated of as two distinct species by Dr. O. Finsch in his admirable monograph (*l. c.*), but seemingly with some doubt, and chiefly on the ground that he had failed to find, among the numerous examples he had examined, a single individual in a transition phase,—that is, combining partly the distinctive characters of both. Yet as far back as 1853 Dr. Pucheran, in one of his valuable essays on the types contained in the Paris Museum (*l. c.*), more than suggested that *P. loxia*, Cuv., was the same bird as *P. torquatus*, Gm. (=*P. lunulatus*, Scop.). Cuvier's type, it seems, did display, along with the blue collar †, a few feathers, "prêtes à disparaître," with yellow crescents bordered with black. Professor Schlegel (*l. c.*) without hesitation unites the two species.

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† [*Anteà*, p. 116.—Ed.]

From a note on the label of a Luzon example of true *P. loxia*, Cuv., marked thus by Dr. Meyer "*Psittacula lunulata* ♂ (not *loxias*, which is the ♂ of *lunulata*)," it is to be inferred that Dr. Meyer considers that the two forms constitute one species. The mode of expression used is, of course, not accurate; for the individual thus noted is actually *P. loxia*, Cuv.; and there is evident confusion in the application of the masculine symbols. But the Doctor's meaning is probably that the blue-collared bird is the male of the necklaced form. Of five examples, three, with blue collars, are marked as males; one with a lunated collar and uropygium is also marked as a male; and the fifth, also with a lunated collar, as being a female. This last has the crescentic markings on the lower back faintly indicated; the three blue-collared individuals do not exhibit a trace anywhere.

From Dr. Meyer's specimens and Dr. Pucheran's remarks on Cuvier's type, the following conclusions may therefore be arrived at:—first, that the blue collar is indicative of the adult male; secondly, that young males possess the necklaced collar, and present crescentic markings on the lower back; thirdly, that females do wear the same plumage as young males. There is, however, no positive evidence to prove that adult females do not put on the garb of adult males, although Dr. Meyer's somewhat confused note makes it likely that they do not.

Tr. Z. S. ix. p. 135. The length of the wing in one young male is greater than in the three adult males, as herewith shown.

1. ♂ adult. 3·87; iris yellow-brown (*Meyer*): *P. loxia*, Cuv.
2. ♂ adult. 3·87: *P. loxia*, Cuv.
3. ♂ adult. 3·86.
4. ♂ juv. 4·00: *P. lunulatus*, Scop.
5. ♀ 3·75; iris yellow-brown (*Meyer*): *P. lunulatus*, Scop.

Loriculus, Blyth.

5. * Loriculus philippensis.

Psittacula philippensis, Briss. Orn. iv. p. 392, no. 87, "Philippines" (1760); Meyen, Nov. Act. C. L. C. Nat. Cur. xvi. Suppl. prim. p. 94, "Manilla."

Le coulacissi, Buffon, Hist. Nat. Ois. vi. p. 169, ex Brisson.

Perruche des Philippines, D'Aubent. Pl. Enl. 520, f. 1.

Psittacus philippensis, L. S. Müller, S. N. Suppl. p. 80, no. 68 (1776), ex Buffon.

Psittacus galgulus, var. β, Gm. S. N. i. p. 349, no. 46, ex Briss.

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† Dr. Pucheran does not mention the blue collar in so many words; but he refers to the individual as Cuvier's type, and that is described by Lesson (*l. c.*) as having the *tour de la gorge bleu*. Indeed the blue collar is the distinctive character of *P. loxia*, Cuv.

Psittacula rubrifrons, Vigors, Phil. Mag. 1831, p. 147, ♀; Lear, Illustr. Psitt. pl. 41.

Psittacula culacissi, Wagler, Monogr. p. 626 (1832); O. Finsch, Monogr. Papag. ii. p. 705; G. R. Gray, Hand-list, no. 8181.

? *Petite Perruche de l'isle de Luçon*, Sonn. Voy. Nouv. Guin. p. 77, pl. 40. fig. sup., ♀.

? *Psittacus melanopterus*, Scopoli, Del. Fl. Faun. Insubr. ii. p. 86, no. 23, ♀ (1786), ex Sonn.

? *Psittacus minor* (♀), Gm. *tom. cit.* p. 351, no. 135 (1788), ex Sonn.

Hab. Luzon (*Meyer*).

6. * LORICULUS REGULUS.

Loriculus regulus, Souancé, Rev. et Mag. Zool. 1856, p. 22, "*patr. incerta*;" v. Martens, J. f. O. 1866, p. 21, no. 114; G. R. Gray, List Brit. Mus.

Hab. Negros (*Meyer*).

A large series of specimens, obtained by Dr. Meyer in the island of Negros, apparently belong to this species of Lorikeet. The origin of Souancé's type is unknown; but an individual obtained by Cuming in Mindanao was identified with Souancé's species by Mr. G. R. Gray (*l. c.*). This example furnished Dr. O. Finsch[†] (Papag. ii. p. 710) with the descriptions cited. The example, however, appears to be no longer extant (Hand-list, no. 8182). Dr. Meyer's Negros specimens agree well with the original description of *L. regulus*, and to that species I provisionally refer them; but until they are compared with actual Mindanao examples their identity must continue doubtful. The peculiarly restricted ranges of the different Philippine species of *Loriculus* render it not unlikely that Cuming's specimens, if really indigenous to Mindanao, may belong to a representative form.

Tr. Z. S. ix. p. 136.

Three examples (♀ *fide* Meyer) are without the orange-red pectoral plastron. In one a large yellow patch replaces the orange-red plastron of the male. In another this yellow space is less distinctly indicated; and in this specimen the feathers surrounding the base of the mandible and the feathers of the throat are verditer-blue. The remaining under surface of these three examples is more or less light yellow-green, and not dark grass-green as in the adult male. Above the female is hardly distinguishable from the adult *L. philippensis* ♂, the golden occipital patch of the adult male being absent, while the golden nuchal stripe is fully developed. A fourth example (♀ *fide* Meyer) has the entire body green, with the exception of the rump and upper tail-coverts, which are scarlet.

7. * LORICULUS HARTLAUBI.

Coryllis hartlaubi, O. Finsch, Monogr. Papag. ii. p. 701, "Mindanao" (1868).

Loriculus melanopterus (Scop.), G. R. Gray, List Psitt. Brit. Mus. p. 55, *fide* O. Finsch, *l. c.*

Loriculus apicalis, Souancé, G. R. Gray, *tom. cit.* p. 56, *fide* O. Finsch, *l. c.*, nec Souancé.

? *Petite Perruche de l'isle de Luçon*, Sonn. Voy. Nouv. Guin. p. 77, pl. 40. fig. inf. ♂.

? *Psittacus melanopterus*, Scopoli, Del. Fl. Faun. Insubr. ii. p. 86, no. 23, ♂ (1786), ex Sonn.

[†] Since the above was written, Dr. O. Finsch has described the Mindanao species, *Coryllis regulus* (Souancé) apud Finsch (Papag. ii. p. 710), as distinct from the true *L. regulus*, Souancé, under the title of *Coryllis occipitalis* (Ibis, 1874, p. 208). It will therefore stand in this list as no. "6 bis **Loriculus occipitalis* (Finsch). *Hab.* Mindanao."

Loriculus melanopterus et *apicalis*, G. R. Gray, Hand-list, nos. 8175, 8176.

Loriculus apicalis, Souancé, v. Martens, J. f. O. 1866, p. 21, no. 115, nec Souancé.

Hab. Mindanao (*Cuming*).

The above title was founded by Dr. O. Finsch (*l. c.*) on some examples of a Lorikeet obtained by Mr. Cuming in Mindanao, and contained in the British Museum. One of these individuals Mr. G. R. Gray (*l. c.*) had identified with *P. melanopterus*, Scopoli, and the other with *L. apicalis*, Souancé. The last title belongs with little doubt to *L. indicus* (Gm.) (*conf.* O. Finsch, *tom. cit.* p. 718). The former is based on the two figures given by Sonnerat in his 40th plate (*tom. cit.*). These two figures, though given by Sonnerat as representing the two sexes of a Luzon parrot, belong clearly to two distinct species. The so-called male is described by that author as having the top of the head red, and the throat blue; while the female is said to differ in having the throat and the feathers surrounding the base of the bill red, and in having a yellow spot on the back of the neck. If it had been made clear by Sonnerat that the summit of the head in his so-called female was also red, there would be no difficulty in showing that he was describing an example of *L. philippensis*; and to that species I have already referred his upper figure, although with doubt. The so-called male, represented by the lower figure, on the whole appears to agree best with *L. indicus*; and to this species Dr. O. Finsch has referred it (*tom. cit.* p. 715). Yet it is not impossible that a Mindanao example of *L. hartlaubi* may have been Sonnerat's type; and this view is maintained by Mr. G. R. Gray in the Hand-list. But the title of *melanopterus*, Scop., cannot be used, as it applies to two distinct species; therefore that of *hartlaubi*, O. Finsch, will have, under any circumstances, to be adopted.

Tr. Z. S. ix. p. 137.

What species Dr. v. Martens (*tom. cit.* p. 21, no 116) intended to indicate under the title of *Loriculus melanopterus* (Scop.), it is impossible to determine. "Kehle blau, ein Flecken im Nacken gelb," does not apply to any *Loriculus* that I am acquainted with.

8. * LORICULUS CHRYSONOTUS.

Loriculus chrysonotus, Sclater, Ibis, 1872, p. 323, pl. xi., "Zebu."

Hab. Zebu (*Meyer*).

The example referred to by Dr. O. Finsch (Papag. ii. p. 711) of *L. regulus* in the British Museum, with nape and back golden, belongs probably to this species.

The following eleven species of Parrots have been described or else enumerated as inhabitants of the Philippines.

(1) *Petite Perruche de l'isle de Luçon, première espèce*, Sonn. *op. cit.* p. 76, pl. 38. fig. inf.

Psittacus pumilus, Scopoli, *tom. cit.* p. 87, no. 26 (1786), ex Sonn.

Coryllis galgulus (Linn.), O. Finsch, *op. cit.* ii. p. 699.

So far as is at present known, this species is restricted to Malacca, Sumatra, and Borneo.

(2) *Petite Perruche de l'isle de Luçon, seconde espèce*, Sonn. *op. cit.* p. 76, pl. 38. fig. sup.

Psittacus leucophthalmus, Scopoli, *tom. cit.* p. 87, no. 25 (1786), ex Sonn.; v. Martens, J. f. O. 1866, p. 22, no. 119, "Luzon."

Psittacus simplex, Kuhl, Conspectus Psittac. p. 66, no. 111 (1820), ex Sonn.

Psittacula passerina (Linn.), O. Finsch, *tom. cit.* p. 648.

Dr. O. Finsch has, with some doubt, identified this Parrot with the well-known South-American species. The learned Doctor, however, separates it as a variety characterized by possessing a blue nuchal spot. Sonnerat is silent as to such a character. Scopoli does not add it, nor does Kuhl. Latham alone mentions a variety of *P. capensis*, Gm. (=*P. passerinus*, Linn., av. juv.), as being represented in one of Lady Impey's drawings, with a blue spot on the lower part of the neck,—the freak of some imaginative native artist? (*conf.* Lath. Gen. Hist. ii. 274, no. 229, var. B).

Mr. G. R. Gray (List of *Psittacidæ* in Brit. Mus. p. 91, no. 26) records *P. leucophthalmus*, Scop., as being contained in the British Museum, and adds Luzon as its origin. Dr. v. Martens (*l. c.*) gives Cuming as the collector of this example. According to the Hand-list, no. 8358, the specimen is no longer extant, and the habitat of the species is left undetermined. Tr. Z. S. ix. p. 138.

(3) *La petite Perruche de l'isle de Luçon*, Sonnerat, Voy. Nouv. Guin. p. 78, pl. 41.
Psittacus cingulatus, Scopoli, Del. Fl. Faun. Insubr. ii. p. 86, no. 22 (1786).
Psittacus melanopterus, Gm. S. N. i. p. 350, no. 132 (1788).
Psittacus micropterus, Kuhl, Conspectus Psittac. p. 67, no. 113 (1820), ex Sonn.
Psittacula cingulata (Scopoli), O. Finsch, Monogr. Papag. ii. p. 677.
A South-American species.

(4) *La Perruche de l'isle de Luçon*, Sonn. *op. cit.* p. 79, pl. 42.
Psittacus signatus, Scopoli, *tom. cit.* p. 26, no. 19 (1786), ex Sonn.
Palæornis cyanocephalus (Linn.), O. Finsch, *op. cit.* ii. p. 40.
Continental India and Ceylon only.

(5) *La Perruche à collier de l'isle de Luçon*, Sonn. *op. cit.* p. 80, pl. 43.
Psittacus guianensis, Scop., *tom. cit.* p. 86, no. 20 (1786), ex Sonn.
Psittacus sonnerati, Gm., *tom. cit.* p. 324, no. 72 (1788), ex Sonn.
Palæornis eupatrius (Linn.), O. Finsch, *tom. cit.* p. 11.

This Parrakeet Dr. O. Finsch (*l. c.*) has identified, without doubt, with the large Alexandrine Parrakeet of Indian authors. Sonnerat's description, however, does not agree well with that species, nor with any other known to me.

(6) *Psittacus manillensis*, Bechstein, Stubenvögel, p. 612, no. 161, "Manilla;" Kurze Uebersicht, p. 75, no. 50, "Africa, Philippines, especially Manilla" (1811).
Palæornis torquatus (Bodd.), O. Finsch, *tom. cit.* p. 17.
Certainly not a Philippine species.

(7) *Palæornis gironnieri*, Verr. Rev. et Mag. Zool. 1853, p. 195, "Philippines."
Palæornis calthropæ, Layard, J. A. S. B. 1849, p. 800, "Ceylon."
Confined to Ceylon.

(8) *Eclectus linnei*, Wagler; G. R. Gray, List Brit. Mus. *Psittacidæ*, p. 65, no. 1, "Philippines;" Hand-list, no. 8239, "Philippines."

and

(9) *Eclectus ceylonensis* (Bodd.), G. R. Gray, *op. cit.* p. 65, no. 3, "Philippine Isl."

Eclectus roratus (L. S. Müller), G. R. Gray, Hand-list, no. 8240, "Philippines;" are well-known species, restricted to the Papuan subregion.

(10) *Lorius philippensis*, Briss. Orn. iv. p. 225, no. 16, "Philippines."

Psittacus lory, Linn. S. N. i. p. 145, no. 26 (1766), ex Briss.

Lorius tricolor, Stephens, G. R. Gray, List Brit. Mus. *Psittacidæ*, p. 50, no. 4, "Philippine Isl."

North of New Guinea, Waigiou, and Mysol.

Tr. Z. S. ix. p. 139. (11) *Lorius garrulus* (Linn.), Meyen, Nov. Act. vol. xvi. suppl. prim. p. 95.

A purely Malaccan species, although stated by Meyen (*l. c.*) to come from the more southern Philippine islands.

RAPACES.

FALCONIDÆ.

FALCONINÆ.

HYPOTRIORCHIS, Boie.

9. HYPOTRIORCHIS SEVERUS.

Falco severus, Horsf. Tr. L. S. xiii. p. 135, "Java" (1821); Walden & Layard, Ibis, 1872, p. 98.

Falco guttatus, G. R. Gray, Ann. N. H. xi. p. 371, "Philippine Islands" (1843).

Hab. Philippines (*G. R. Gray*); Negros (*L. C. Layard*).

An example of each of the two following species of Falcons, said to have been obtained in the Philippines, is contained in the Museum at Norwich. Although there is nothing absolutely impossible in either, or both, of these species occurring in the archipelago, I refrain from treating them as authentically ascertained Philippine species, the evidence in favour of their Philippine origin requiring confirmation.

Falco peregrinus, Gm., an adult female, "Manilla"?

Falco melanogenys, Gould, a female, not quite mature, "Philippines"?

HIERAX, Vigors.

10. * HIERAX ERYTHROGENYS.

Hierax erythrogenys, Vigors, P. Z. S. 1831, p. 96, "neighbourhood of Manilla;" Fraser, Zool. Typica, pl. 31.

Falco sericeus, Kittlitz, Kupfert. pt. 1, p. 4, pl. 3. fig. 3, "Philippines" (1832)†; Mém. présentés à l'Acad. St. Pétersb. vol. ii. pt. 1 & 2, p. 2, pl. 1, "Luzon" (1833).

Falco gironnierii, Eydoux et Souleyet, Voy. Bonite, Ois. p. 71, pl. 1, "Lucon" (1841).

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† Strickland (Orn. Syn. p. 104) gives 1809 as the date. This must be an error; for Kittlitz first obtained the pair he described from in the year 1829, when with the Russian corvette 'Senjavin' at Manilla.

Ierax erythrogenys, Vig., G. R. Gray, Hand-list, no. 221.

Ierax sericeus, Kittlitz, G. R. Gray, *tom. cit.* no. 222.

Hab. Luzon (*Meyer*).

Kaup in 1850 (Contrib. Orn. 52) united *H. erythrogenys* with *H. sericeus*, applying Vigors's title to the male, and that of Kittlitz to the female. Dr. v. Martens (J. f. O. 1866, p. 9) suggested that the two titles belonged to one and the same bird. Mr. J. H. Gurney writes to me that he considers *H. erythrogenys*, Vigors, to be the female (and probably the young male also) of *H. sericeus* (Kittlitz); also that M. Jules Verreaux had ascertained by dissection that *H. sericeus* and *H. erythrogenys* were male and female of the same species. Perhaps it will be eventually shown that the adults of both sexes do not differ in coloration, and that the rufous cheeks are a sign of nonage common to both sexes. Dr. Meyer's examples are all in the *sericeus* plumage; and some are marked by him as male, and others as female. In one of the latter the wing measures a full half inch longer than in the males; and the other dimensions are proportionally greater. Tr. Z. S. ix. p. 140.

H. cœrulescens evinces a somewhat analogous tendency, the white forehead and supercilium of the adults being rufous in a prior stage of plumage. And this is also to be observed in *H. eutolmus*, where, however, the chin and throat are white in the young bird, instead of ferruginous as in the adult.

On the authority of M. de la Gironnière (Bonite, *l. c.*) the Philippine *Hierax* is stated to appear in Luzon only in the spring; and the inference is drawn that it is migratory. Dr. Meyer obtained his specimens in January and April.

In the Hand-list (*l. c.*) Mr. G. R. Gray notes *H. sericeus* as occurring in North China. It is not included in either Mr. Swinhoe's list (P. Z. S. 1871), or in that of M. Armand David (N. Archiv. Mus. vii.). Mr. Swinhoe, however, recently observed a species of *Hierax* in a collection made by Père Heude near Shanghai (Ibis, 1873, p. 95); but he does not identify the species.

Hierax melanoleucus, Blyth, is treated by Mr. Strickland (Orn. Syn. p. 104) as a synonym of *H. sericeus*, whereas the Assamese *Hierax* is a very distinct and well-marked species. It differs in having black cheeks, white lores, a white superciliary stripe continued along the sides of the head to the neck, white shoulder-edge and under shoulder-coverts, and in having all the rectrices except the middle pair with five or more white spots on their inner webs, and all the quills numerously barred with white. In the Philippine species the tail-feathers, quills, and under shoulder-coverts are black, some of the quills being indistinctly mottled with dirty white. It possesses no supercilium; and the cheeks are white.

ACCIPITRINÆ.

LOPHOSPIZA, Kaup.

11. LOPHOSPIZA TRIVIRGATA.

Falco trivirgatus, Temm. Pl. Col. 303, "Sumatra" (1824).

Astur cristatus, G. R. Gray, Ann. N. H. xi. p. 371, "Philippine Islands" (1843).

Hab. Philippines (*G. R. Gray*).

Mr. J. H. Gurney informs me that Philippine examples of this species are preserved in the Norwich Museum.

Tr. Z. S. ix. p. 141.

TERASPIZA, Kaup.

12. TERASPIZA VIRGATA.

Falco virgatus, Reinw., Temm. Pl. Col. 109, ♂, "Java" (1824); Schlegel, Vog. Neder. Ind., Valkvog. p. 59, pl. 12. f. 1, 2, 3, 4.

Nisus manillensis, Meyen, Nov. Act. Ac. C. L. C. Nat. Cur. xvi. Suppl. p. 69, pl. ix. (♀), "Manilla in October" (1834), *fide* Sharpe.

Hab. Luzon, January; Guimaras, March (*Meyer*).

TACHYSPIZA, Kaup.

13. TACHYSPIZA SOLOENSIS.

Falco (Dædalion) soloënsis, Horsf. Tr. L. S. xiii. p. 137, "Java" (1820); Schlegel, Mus. Pays-Bas, *Astures*, p. 44.

Falco soloënsis, Horsf., Lath. Gen. Hist. i. p. 209, no. 137 (1821).

The Philippine habitat rests on the authenticity of three male examples in perfect plumage in the Leyden Museum, and two in the British Museum, all collected by the late Mr. Hugh Cuming.

AQUILINE.

LIMNAËTUS, Vigors.

14. * LIMNAËTUS PHILIPPENSIS. (Pl. XXIV. *in orig.*)

Spizaëtus philippensis, Gurney, Gould, Birds of Asia, pt. 15 (sub *Spizaëtus alboniger*), "Philippine Islands" (June 1, 1863).

Spizaëtus kienerii, Gervais, Guérin, Mag. Zool. v. pl. 35, "Himalayas" (1835), *apud* Schlegel, Mus. Pays-Bas, *Astures*, p. 12, "Luçon," *nec* Gervais.

Hab. Luzon (*Gevers*).

The figure is taken from the first of the two examples described by Mr. Gurney (*l. c.*); and it will be observed that the Philippine bird nearly resembles the small South-Indian and Ceylon race, *L. ceylonensis* (Gm.). *L. kienerii* may likewise occur in Luzon; but the single individual in the Leyden Museum, doubtfully referred to it by Professor Schlegel, does not agree with what is known of either the young or adult plumage of that well-marked species.

Le Secrétaire, Sonn., Voy. Nouv. Guin. p. 87, pl. 50, on which were founded the *Otis secretarius*, Scopoli, Del. Fl. Faun. Insubr. ii. p. 93, no. 83 (1786), and *Gypogeranus philippensis*, Ogilby, P. Z. S. 1835, p. 105, is now known to be indigenous to Africa only, although stated by Sonnerat to likewise inhabit the Philippines.

Cuncuma, Hodgson.

Tr. Z. S. ix. p. 142.

15. Cuncuma leucogaster.

White-bellied Sea-eagle, Lath. Synop. i. p. 33, "*Patr. ignot.*"

Falco leucogaster, Gm. S. N. i. p. 257, no. 43 (1788), ex Lath.; von Martens, Preus. Exped. Ost-Asien, Zool. i. p. 187; Walden & Layard, Ibis, 1872, p. 98.

Hab. Philippines (*v. Martens*); Negros? (*L. C. Layard*).

Spilornis, G. R. Gray.

16. * Spilornis holospilus.

Buteo holospilus, Vigors, P. Z. S. 1831, p. 96, "neighbourhood of Manilla."

Hæmatornis holospilus (Vigors), Vigors, *tom. cit.* p. 170; Fraser, Zool. Typica, pl. 29 (1849).

Spilornis holospilus (Vigors), G. R. Gray, List Birds Brit. Mus., *Accipitr.* p. 10 (1844).

Circaëtus holospilus (Vigors), G. R. Gray, Gray & Mitch. Genera of Birds, i. pl. 7, "juv.;" *id.* List Birds Brit. Mus., *Accipitr.* p. 19 (1848); Kaup, Isis, 1847, p. 263, "British India & China" (!); v. Pelzeln, SB. Ak. Wien, 1862, p. 171, "East Indies."

Hab. Luzon (*Meyer*); Mindanao, Cataguan (*Cuming*).

Mr. Blyth (Ibis, 1866, p. 243) extends the range to South China; but the species is not included by Mr. Swinhoe in his List (P. Z. S. 1871). It appears to be restricted to the Philippines.

Milvinæ.

Haliastur, Selby.

17. Haliastur intermedius.

Haliastur intermedius, Gurney, Ibis, 1865, p. 28, "Java;" *op. cit.* 1866, p. 247.

Haliaëtus pondicerianus (Linn.), ap. Meyen, Nov. Act. Ac. C. L. C. Nat. Cur. xvi. suppl. prim. p. 69.

Haliastur indus (Bodd.), v. Pelzeln, Reise der Novara, Vögel, p. 7, "Philippines."

Hab. Luzon, April; Guimaras, March (*Meyer*).

The white plumage, more particularly on the head, with black shafts. That of the breast almost as in *H. leucosternus*. The Malaccan Brahminy Kite resembles closely that of India, *H. indus*.

Elanus, Savigny.

18. Elanus hypoleucus.

Elanus hypoleucus, Gould, P. Z. S. 1859, p. 127, "Macassar;" Walden, Tr. Z. S. viii. p. 36.

Elanus intermedius, Schlegel, Mus. Pays-Bas, *Milvi*, p. 7, "Java, Borneo, Celebes" (1862).

Elanus melanopterus, Daud., v. Martens, J. f. O. 1866, p. 9, no. 7, *nec* Daud.

Hab. Luzon (*Jagor*).

Dr. v. Martens appears to be the first and only author who has recorded the existence of a Philippine species of the genus *Elanus*. He identified it with the common African and Indian species. I venture, however, to refer it to the Archipelagic form, *E. hypoleucus*, Gould (P. Z. S. 1859, p. 127), which appears to be equal to *E. intermedius*, Schlegel. Tr. Z. S. ix. p. 143.

BAZA, Hodgson.

19. *BAZA MAGNIROSTRIS.

Baza magnirostris, G. R. Gray, List Birds Brit. Mus., *Accipitr.* p. 19, "Philippine Islands" (1844); Walden, Tr. Z. S. viii. p. 36. [*Anteà*, p. 140.]

Pernis crassirostris, Kaup, Jard. Contrib. Orn. 1850, p. 77, "Philippine Islands."

Avicida magnirostris (Kaup), Bp. Comp. i. p. 20, no. 5 (1850); *id.* R. M. Z. 1855, p. 534, no. 114.

Hab. Philippines (*Cuming*).

Mr. Sharpe informs me that he considers the Celebean *Baza* specifically distinct from the Philippine (*conf.* Walden, Tr. Z. S. viii. p. 36). [*Anteà*, p. 140.]

BUTASTUR, Hodgson.

20. BUTASTUR INDICUS.

Javan Hawk, Latham, Gen. Synop. i. p. 34*, nos. 8, 7, "Java" (1781).

Falco indicus, Gm. S. N. i. p. 264, no. 68 (1788), ex Lath.

Poliornis indicus (Gm.), Walden, Tr. Z. S. viii. p. 37 (1871). [*Anteà*, p. 140.]

Hab. Luzon, February, April; Guimaras, March; Cujo, December (*Meyer*).

An old female, from Guimaras, with a very broad superciliary stripe, has four distinct dark brown caudal bands. Several Malaccan examples (*mus. nostr.*) perfectly agree with those from the Philippines.

CIRCUS, Lacépède.

21. CIRCUS MELANOLEUCUS.

Black and White Indian Falcon, Penn. Ind. Zool. 1st ed. pl. i. (1769?); Lath. Synop. i. p. 81, no. 65, "Ceylon," ex Pennant.

Falco melanoleucos, Forster, Zool. Ind. p. 12, pl. 2 (1781), ex Lath.

Circus melanoleucus (Gm.), Radde, Reisen Ost-Siberien, ii. p. 116, pl. 2. fig. 1; Swinhoe, Ibis, 1863, p. 213; Gurney, Ibis, 1868, p. 356; Walden & Layard, Ibis, 1872, p. 98. [*Anteà*, p. 117.]

Circus, sp., Swinhoe, Ibis, 1861, p. 263, no. 12, "Manilla" (1861).

Circus cyaneus hudsonius, Schlegel, Mus. Pays-Bas, *Circi*, p. 3, *juv.* "Luçon;" Swinh., Ibis, 1863, p. 214; Gurney, *l. c.* no. 3; Ibis, 1870, p. 444.

Hab. Philippines (*Gurney, Swinhoe, Gevers*); Negros? (*L. C. Layard*).

The Philippine habitat of this Harrier mainly rests on the testimony of Mr. Swinhoe (*l. c.*), and on the correct determination of certain immature Philippine examples in the Museums of Norwich and Leyden by Mr. Gurney.

22. CIRCUS SPILONOTUS.

Circus spilonotus, Kaup, Jard. Contrib. Orn. 1850, p. 59, "Asia;" Swinhoe, Ibis, 1863, p. 215, pl. 5; Gurney, Ibis, 1868, p. 356.

Hab. Philippines (*Gurney*).

Authentic Philippine individuals of this Harrier are contained in the Norwich Museum (*fide* Gurney, *l. c.*). It also occurs in the Malay peninsula. Tr. Z. S. ix. p. 144.

23. CIRCUS ÆRUGINOSUS.

Falco æruginosus, Linn. S. N. i. p. 130, no. 29 (1766).

A skin of a young female† obtained in one of the Philippine Islands by the late Mr. Hugh Cuming, and now in the British Museum, is our only warrant for admitting the Marsh-Harrier as an inhabitant of the archipelago.

STRIGIDÆ.

SURNIINÆ.

NINOX, Hodgson.

24. *NINOX PHILIPPENSIS. (Pl. XXV. fig. 1, *in. orig.*)

Ninox philippensis, Bp. Compt. Rend. xii. p. 655 (1855).
Noctua hirsuta philippensis, Schlegel, Mus. Pays-Bas, *Striges*, p. 26, "Philippines" (1862).
Noctua philippensis, Schlegel, Neder. Tijdschr. Dierk. 1866, p. 183.
Athene philippensis, Schlegel, Wallace, Ibis, 1868, p. 22.

Hab. Luzon, January (*Meyer*).

A very distinct form. Each of the major wing-coverts with a bold white drop towards the end of the outer web. Rectrices traversed by six narrow ochreous bands. The cheek-feathers rigid, decomposed, and considerably developed, extending posteriorly sufficiently to cover the ears.

	Longitudo alæ.	caudæ.	
♂	6·37	3·62	Luzon.
♂	5·25	3·62	Luzon.

BUBONINÆ.

PSEUDOPTYNX, Kaup.

25. *PSEUDOPTYNX PHILIPPINENSIS. (Pl. XXV. fig. 2, *in. orig.*)

Pseudoptynx philippinensis, Kaup, Tr. Zool. Soc. iv. p. 244, "Philippines" (1859); Schlegel, Mus. Pays-Bas, *Oti*, p. 14; Mr. G. R. Gray, Hand-list, no. 456.
Bubo philippensis, Schlegel, De Dierentuin, pt. i. p. 10, fig. —.

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† [Mr. R. B. Sharpe refers this skin to *C. spilonotus*, juv., *conf.* Trans. Linn. Soc., Zool. vol. i. p. 308.—ED.]

Syrnium philippense, G. R. Gray, List Birds Brit. Mus., *Accipitres*, p. 105, "Philippine Islands" (1848).

Otus philippensis, G. R. Gray, Gray & Mitch. Genera, i. p. 40, no. 11.

Hab. Philippines (*Cuming*).

An example of this rare Owl, contained in the Leyden Museum, is said to have been Tr. Z. S. ix. p. 145. obtained in the Philippines by Cuming. The accompanying figure is from the type specimen in the British Museum, obtained by that traveller.

Lempijius, Bonaparte.

26. *Lempijius? megalotis. (Pl. XXV. fig. 3, *in. orig.*)

Ephialtes megalotis, G. R. Gray, Hand-list, i. p. 46, no. 474, "Manilla" (1869) (*descr. nulla*).

Hab. Manilla (?).

A well-marked species, conspicuous by its long ear-tufts, which measure fully an inch and a quarter. The type is preserved in the British Museum, and, although noted by Mr. Gray (*l. c.*) as being a young bird, appears to me to be fully adult.

Light rufous. Feathers of the head and back with very minute black transverse markings, bolder on the long ear-tufts. Under surface tawny rufous, the minute transverse markings being pale brown. Quills alternately barred throughout their length with pale brown and pale fulvous bands. The brown bands more or less dotted with pale fulvous; the fulvous bands here and there with a narrow pale-brown irregular line running through. Rectrices marked and coloured like the quills; but the bands are narrower. Tarsus feathered to the feet, which are naked. Wing 6; tail 2·25; tarsus 1·25.

The figure is taken from the type specimen.

STRIGINÆ.

Scelostrix, Kaup.

27. Scelostrix candida.

Strix candida, Tickell, J. A. S. B. 1833, p. 572, "Bengal and the upper Provinces;" Jerdon, Illustr. Ind. Orn. pl. 30; Gould, Birds of Asia, pt. xxiv. pl. 2.

Strix amauronota, Cab. J. f. O. 1866, p. 9, "Luzon" (*descr. nulla*); *op. cit.* 1872, p. 316, no. 3 (*descr. princeps*).

A single example of a long-legged Grass-Owl was obtained in the Philippines by Dr. Meyer; but the exact locality was not recorded. In its dimensions it agrees with Indian examples, and cannot be separated by any peculiarities of colouring. The description lately published by Dr. Cabanis (*l. c.*) of his *Strix amauronota* perfectly agrees with the example obtained by Dr. Meyer. *S. pithecops*, Swinhoe (Ibis, 1866, p. 396, "Formosa"), according to Mr. G. H. Gurney (*in epist.*), also belongs to the same species. And Mr. Swinhoe (P. Z. S. 1871, p. 344, no. 56) has identified *S. pithecops* with *S. candida*, while Mr. Gould has recently (*l. c.*) united

Australian *S. walleri*, Diggles, with the Indian species. In the Liverpool Museum Mr. Blyth identified two Philippine examples of *Scelostrix* with *S. candida* (Ibis, 1865, p. 30). Later (*op. cit.* 1866, p. 251) that gentleman expressed less confidence in the correctness of his original opinion (*conf. op. cit.* 1867, p. 184). But in 1870 (*op. cit.* p. 160) Mr. Blyth surmised that the Tr. Z. S. ix. p. 146. various species above named would be found to be identical. It is perfectly distinct from *S. rosenbergi*.

PICARIÆ.

PICIDÆ.

THRIPONAX, Cabanis.

28. THRIPONAX JAVENSIS.

Picus javensis, Horsf. Tr. L. S. xiii. p. 175, ♂, "Java" (1820); Walden, Ibis, 1871, p. 164[†].

Picus horsfieldii, Wagler, Syst. Av. p. 15, no. 5, ♂ (1827), ex Horsf.

Picus leucogaster, Wagler, *l. c.* no. 7, ♀, "Mindanao;" Isis, 1829, p. 509, ♂; Reinw., Temm. Pl. Col. 501, ♂, "îles de la Sonde" (1830).

Dryopicus leucogaster (Reinw.), Malh. Monogr. i. p. 47, pl. 13. f. 4, ♂, 5, ♀.

Hab. Luzon, January and April (*Meyer*); Mindanao (*Wagler*).

The crest in these Luzon examples is of a brighter red than in Malaccan and Javan individuals; it is vermilion, as in *T. crawfurdi*, whereas in *T. hodgsoni* and in Malaccan and Javan *T. javensis* it is blood-red. The proportion of white at the insertion of the quills corresponds with what is found in Malaccan examples (*conf.* Walden, *l. c.*). On the outer web of the fourth primary of a female a small albescent terminal spot is indicated. In the other examples there is no trace. Altogether the Luzon *Thriponax* closely resembles the Javan and Malaccan. By the following table of dimensions it will, however, be seen that it is a smaller bird.

		Longitudo			
		alæ.	caudæ.		
T. javensis,	♂ . . .	8·25	7·25	East Java.	Not quite adult.
,,	♂ . . .	8·50	7	Malacca.	Adult.
,,	♀ . . .	8·37	7·50	,,	,,
,,	♀ . . .	8·75	7·50	,,	,,
,,	♂ . . .	8	7	Luzon.	,,
,,	♂ . . .	7·75	7	,,	,,
,,	♀ . . .	7·60	6·50	,,	,,

MULLERIPICUS, Bonaparte.

29. *MULLERIPICUS FUNEBRIS.

Picus funebris, Valenc. Dict. Sc. Nat. vol. 40, p. 179, ♀, "Philippines" (1826); Malh. Monogr. i. p. 54, pl. 15. fig. 1, ♂, 2, ♀.

[†] [*Anteà*, p. 103.—ED.]

Picus lichtensteinii, Wagler, Syst. Av. p. 25, no. 31, ♀, "*Patr. incerta*" † (1827).

Tr. Z. S. ix. p. 147. *Picus modestus*, Vigors, P. Z. S. 1831, p. 98, ♂, "neighbourhood of Manilla."

Picus punctatus, Lesson, Tr. p. 230, ♀, "*Patr. non indic.*" (1831), *nec* Vieillot.

Picus funereus, Lichtenst. in Mus. Berol., *fide* Cab. Mus. Hein. iv. pt. 2, p. 108.

Hab. Luzon, January and April (*Meyer*).

Belongs to the same section as *M. fulvus* (Q. & G.).

CHRYSOCOLAPTES, Blyth.

30. * CHRYSOCOLAPTES HÆMATRIBON.

Picus hæmatribon, Wagler, Syst. Av. p. 46, no. 95 (♀), "India?" (1827).

Picus spilolophus, Vigors, P. Z. S. 1831, p. 98 (♀), "neighbourhood of Manilla."

"*Picus philippinarum*, Gm." ‡, Lesson, Tr. p. 222 (1831).

Indopicus hæmatribon (Wagler), Malh. Monogr. ii. p. 84, pl. 68. f. 1, ♂, 2, ♂ juv., 3, ♀ §.

Hab. Luzon, January, February, and April (*Meyer*).

31. * CHRYSOCOLAPTES XANTHOCEPHALUS.

Chrysocolaptes xanthocephalus, Walden & Layard, Ibis, 1872, p. 99, pl. iv. ‖, "Negros."

As yet only known to inhabit the island of Negros.

32. * CHRYSOCOLAPTES LUCIDUS.

Pic grivelé ou grand Pic de l'isle de Luçon, Sonnerat, Voy. Nouv. Guin. p. 73, pl. 37.

Picus lucidus, Scopoli ¶, Del. Fl. Faun. Insubr. ii. p. 89, no. 51 (1786), ex Sonn.

Pic verd des Philippines, D'Aubent., Pl. Enl. 691.

Autre palalaca ou Pic verd tacheté des Philippines, Buffon, Hist. Nat. Ois. vii. p. 21.

Picus aurantius, Linn., Bodd. Tabl. Pl. Enl. p. 43 (1783), ex D'Aubent. *nec* Linn.

Picus bengalensis, var. γ, Gm. S. N. i. p. 433, no. 13, ex Sonn. et D'Aubent.

Picus philippinarum, Lath. Ind. Orn. i. p. 236, no. 30 (1790), ex Sonn. et D'Aubent.; Malh. Monogr. *Picidæ*, ii. p. 85, pl. 66. figs. 3, 4; v. Martens, J. f. O. 1866, p. 20, no. 101.

Picus palalaca, Cuv. R. An. i. p. 451 (1829), ex D'Aubent.

Picus squamosus, Less. Traité, p. 230, "*Patr. non indic.*" (1831); Pucheran, Rev. et Mag. Zool. 1853, p. 162.

Hab. Luzon (*Jagor*).

Buffon (*tom. cit.* p. 20) mentions as a distinct species, under the name of *Le Palalaca*, a large Philippine Woodpecker, described by both Camel and Gemelli Carreri†, and said to be of the size of a fowl. The colour of its plumage is stated to be principally green. Dr. v. Martens (*l. c.*) is of opinion that *palalaca* is the native name for *P. philippinarum.*

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† Malherbe (*l. c.*) informs us that Wagler described from the same specimen in the Paris Museum that served as Valenciennes' type.

‡ Gmelin has no such title.

§ Wagler's types were still in the Paris Museum when Malherbe wrote (*l. c.*).

‖ [*Antea*, p. 118.]

¶ Scopoli, who had already given the title of *Picus menstruus* to the species figured in Sonnerat's thirty-sixth plate, again quoted the thirty-sixth plate and applied the title cited. But the diagnosis plainly refers to the bird figured in Sonnerat's thirty-seventh plate.

Yungipicus, Bonaparte.

Tr. Z. S. ix. p. 148.

33. *Yungipicus maculatus.

Le petit Pic d'Antique, Sonnerat, Voy. Nouv. Guin. p. 118, pl. 77.

Picus maculatus, Scopoli, Del. Fl. Faun. Insubr. ii. p. 89, no. 52 (1786), ex Sonn.

Le petit Epeiche, var., Buffon, Hist. Nat. vii. p. 64, ex Sonn.

Picus minor, var. β, Lath. Ind. Orn. i. p. 230, no. 15, ex Sonn.‡

"*Picus moluccensis*, Gm.," Lesson, Traité, p. 221, "Mindanao," *nec* Gm.; Malherbe, Monogr. *Picidæ*, i. p. 143, "Philippines et Moluques," *nec* Gm.

Picus nanus, Vigors, Blyth, J. A. S. B. 1845, p. 197, "patr. incert.," *nec* Vigors.

Picus validirostris, Blyth, Cat. Calc. Mus. p. 64, no. 305, "*Patr. incog.*;" J. A. S. B. 1849, p. 805, "Philippines or China;" Cab. Mus. Hein. iv. pt. 2, p. 60, no. 207, "Philippines;" G. R. Gray, Hand-list, no. 8582; v. Martens, J. f. O. 1866, p. 20, no. 106.

Picus flavinotus, Malherbe, *l. c.*

Picus maculatus, Jerd. Birds of India, i. p. 279, "Philippines" (1862).

Hab. Luzon (*Jagor*); Panay (*Sonnerat*); Mindanao (*Lesson*).

The synonyms have been brought together as above on the assumption that Luzon, Panay, Mindanao possess but one species of *Yungipicus.*

Malherbe's opinion that this Philippine Woodpecker is identical with Buffon's *Petit pic des Moluques*, has been satisfactorily disposed of by Dr. Cabanis (*l. c.*).

Picus analis, Temm., MS. (Horsf. Gen. Cat. Jav. Birds, in Horsf. Zool. Res. Java,=*Picus minor*, Linn., ap. Horsf. Tr. Linn. Soc. xiii. p. 177, *nec* Linn.), is recorded by Malherbe (Monogr. *Picidæ*, i. p. 100), from Mindanao, but on very insufficient authority. Sundevall (Consp. Av. Picinarum, p. 25, no. 69), with reason, doubts its Philippine habitat.

Wagler (Syst. Av. *Picus*, p. 24, no. 27) describes his *Picus variegatus* from Manilla as well as from Java; but Dr. Cabanis (Mus. Hein. iv. pt. 2, p. 54) has shown that Wagler had only Javan examples, contained in the Munich Museum, before him. His species is probably the same as *P. moluccensis*, Gm.

The two following species of Woodpecker have been clearly shown by Malherbe (*op. cit.*) to be African, and not Philippine:—

Le pic cardinal de l'isle de Luçon, Sonnerat, Voy. Nouv. Guin. p. 72, pl. 35.

Picus guineensis, Scopoli, Del. Fl. Faun. Insubr. ii. p. 89, no. 49 (1786), ex Sonn.

Picus cardinalis, Gm. S. N. i. p. 438, no. 51 (1788), ex Sonn.

Le pic verd de l'isle de Luçon, Sonnerat, *tom. cit.* p. 73, pl. 36.

Picus menstruus, Scopoli, *tom. cit.* p. 89, no. 50 (1786), ex Sonn.

Picus manillensis, Gm., *tom. cit.* p. 434, no. 43 (1788), ex Sonn.

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† Voy. autour du Monde, *Paris*, 1719, v. p. 269.

‡ Gmelin omits all notice of this species.

Tr. Z. S. ix. p. 149.

TROGONIDÆ.

Harpactes, Swainson.

34. *Harpactes ardens.

Trogon ardens, Temm. Pl. Col. 404, ♀, Mindanao" (1826).

Harpactes rhodiosternus, Peale, Un. St. Expl. Exped. Zool. p. 166, ♂, "near Zamboanga" (1848).

Pyrotrogon ardens (Temm.), Bp. Consp. Volucr. Zygodactyl. p. 14 (1854).

Harpactes ardens (Temm.), Gould, Trogonidæ, pl. 35.

Hab. Luzon, ♂, January (*Meyer*); Mindanao (*Peale*).

Temminck's title was founded on an example of a female from Mindanao, that given by Peale on a male from the same island. This Luzon male agrees perfectly with Peale's description.

MEROPIDÆ.

Merops, Linnæus.

35. Merops philippinus.

Apiaster philippensis major, Briss. Orn. iv. p. 560, no. 12, pl. 43. f. 1, "ex Philippensibus ins.," *descr. orig.* (1760).

Merops philippinus, Linn. S. N. ed. xiii. (Vindob.), i. p. 183, no. 5 (1767), ex Briss.

Grand Guêpier des Philippines, D'Aubent. Pl. Enl. 57.

Le Guêpier vert à queue d'azur, Montb. Hist. Nat. Ois. vi. p. 504, "Philippines."

Le Guêpier daudin, Le Vaillant, Hist. Nat. Guêp. p. 49, pl. 14, "Philippines."

Merops daudini, Cuv. R. A. i. p. 442 (1829), ex Le Vaillant.

Merops javanicus, Horsf. Tr. Linn. Soc. xiii. p. 171, "Java" (1820).

Merops typicus, Hodgs., Gray's Zool. Misc. p. 82, "Nipaul" (*descr. nulla*) (1844).

Merops cyanorrhos, Temm. Mus. Lugd., *fide* Bp. Consp. i. p. 162.

Merops savignyi, Cuv., v. Kittlitz, Lutké, Voy. (Postels) iii. p. 327, "Luçon," nec Cuv.

Merops savignyoides, in Mus. Massen., *fide* Cab. Mus. Hein. i. pt. 2, p. 139.

Merops daudini, Cuv., Swinh. P. Z. S. 1871, p. 348, no. 81, "Swatow."

Merops philippinus et *daudini*, G. R. Gray, Hand-list, nos. 1207, 1208.

Hab. Luzon, February; Negros, March (*Meyer*).

Brisson (*l. c.*) gave a fairly accurate description of this Bee-eater from a specimen in the collection of Madame de Bandeville. But the type seems to have been immature; for Brisson does not mention the pale blue subocular stripe and the elongated middle pair of rectrices. In the plate the tail is depicted as being truncate; and hence the imperfect Linnæan diagnosis "cauda æquali." D'Aubenton's plate (*l. c.*) represents a uniformly dark green bird, with a bright blue rump and tail; the rectrices are even. Le Vaillant (*l. c.*) is severe on Buffon, and criticises both plate and description, suggesting that Buffon had described from his bad plate instead of from the bird itself. The description seems, in fact, to have been taken and the figure coloured from the account given by Brisson, the coppery hues being omitted. Le Vaillant's own plate is equally inaccurate; but in the letterpress he describes the species sufficiently to leave little doubt that the Philippine bird was before him; and he states that he described from three examples in Paris collections, brought from the Philippines by Sonnerat and Poivre. Still it is curious that Le Vaillant likewise figures the bird with an even tail. Tr. Z. S. ix. p. 150.

Dr. Cabanis (*l. c.*) long since pointed out that examples of this Bee-eater from Ceylon, Malacca, Java, and the Philippines did not specifically differ. One or two recent authors, by adopting the two titles of *philippinus* and *daudini*, according to the habitat of the individuals, seem, however, to disagree with Dr. Cabanis's conclusions. Examples obtained in Luzon by Dr. Meyer, when compared with a large series from Ceylon, India, Upper Burma, Malacca, Sumatra, Java, and Celebes, do not exhibit the slightest specific differences, nor do their dimensions vary appreciably; nor is even the somewhat darker hue of green said to be possessed by the Philippine bird (Cab. *l. c.*) apparent in Dr. Meyer's Luzon specimens.

36. *MEROPS BICOLOR. (Pl. XXVI. fig. 1, *in. orig.*)

Apiaster ex Franciæ insula, Brisson, Orn. iv. p. 543, no. 6, pl. 44. f. 2, "Franciæ ins." (1760).

Le Guêpier marron et bleu, Montb. Hist. Nat. Ois. vi. p. 493, ex Briss.

Guêpier de l'isle de France, D'Aubent. Pl. Enl. 252.

Merops americanus, L. S. Müller†, Suppl. p. 95, ex Buffon (D'Aubent.) (1776).

Merops bicolor, Bodd. Tabl. Pl. Enl. p. 15, no. 252 (1783), ex D'Aubent. nec Vieillot.

Merops badius, Gm., S. N. i. p. 462, no. 10 (1788), ex Briss.

Chesnut bee-eater, Lath. Synop. i. p. 677, no. 9, ex Briss.

Merops castaneus, Lath. Ind. Orn. i. p. 273, no. 10, ex Lath. (1790).

Le Guêpier Latreille, Le Vaillant, Hist. Nat. Guêp. p. 45, pl. 12, "Africa, Ceylon, Isl. of France!"

?*Apiaster philippensis minor*, Briss. *tom. cit.* p. 555, no. 10, pl. xliii. f. 2, "Philippine Isl." (1760).

?*Merops ornatus*, Lath., v. Martens, J. f. O. 1866, p. 17.

Hab. Luzon, April; Negros, March (*Meyer*).

The four examples obtained are in perfect plumage. Seen from above, they exactly correspond in colouring with *M. quinticolor*. Underneath the plumage closely resembles that on the under surface of *M. sumatranus*, Raffles, = *M. cyanopygius*, Less., of Sumatra, Malacca, and Borneo. The head, nape, and back of the latter species are dark chocolate; and it has been hitherto identified by general consent with *M. badius*, Gm. The same parts in these Philippine specimens are bright chestnut. They are without doubt the true *Merops badius*, Gm., founded on Brisson's *Guespier de l'isle de France*. On this Brissonian species all the titles given above were directly or indirectly based.

Brisson's diagnosis of the upper parts is as follows:—"*Partes capitis et colli superiores, sicut et dorsi suprema, et scapulares pennæ sunt eleganter castaneæ.*" In the French he characterizes Tr. Z. S. ix. p. 151.

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† Müller, for some unaccountable reason, bestowed the title cited, although he states that the species dwells in the Isle of France. This title has priority; but few will adopt it.

the colouring of these parts as being of a "beau marron." With the Philippine bird to compare, it is impossible not to recognize in it the Brissonian species; but in its absence the Malayan Bee-eater satisfies the complete diagnosis, provided we are prepared to read "*eleganter castaneæ*" as meaning chocolate-colour. It is therefore not surprising that the Malayan *Merops* should hitherto have been referred to *M. badius*, Gm.; and we are indebted to Dr. A. B. Meyer for recovering a species so long unrecognized.

Both D'Aubenton and Le Vaillant figure the Brissonian species with a bright chestnut head and back, the latter author, with his accustomed inaccuracy, stating that he had met the bird on the east coast of Africa, near the Caffre country, where it remained about fifteen days; but as the flocks did not remain there longer, and he never saw the species again, he was unable to say whether it nested in that country! It is very questionable if Le Vaillant ever saw the bird at all; for, although the colouring of his plate agrees with the Brissonian description, in the letterpress Le Vaillant says that the chestnut mantle only covers the upper back, while he describes the *head* and the *wings* as blue like the rest of the body. Montbeillard's account (*l. c.*) appears by internal evidence to have been taken from Brisson. D'Aubenton's plate may or may not have been coloured from an actual example; but whether the two figures were composed from Brisson's description or drawn from real specimens, they are of value, as showing the nature of the chestnut colouring of the head and back,—if from the description, by depicting the colour "beau marron"—if from the bird itself, by representing its coloration.

Dr. v. Martens (*l. c.*) introduces *M. ornatus*, Lath., as a Philippine species he had observed preserved in the Military Library at Manilla. He describes it as having the entire under surface of a lively grass-green, and as having no throat-band. Judging by the young plumage of *M. sumatranus*, Raffles, before the chocolate mantle is assumed, it is not improbable that the bird described was a young individual of *M. bicolor*. *Apiaster philippensis minor*, Briss. (*l. c.*), up to now an unidentified species, with the middle pair of rectrices not fully developed, and regarded by Montbeillard (*tom. cit.* p. 500) as being the same as *M. viridis*, Linn., probably was founded on *M. bicolor* in immature dress.

M. bicolor seems to be the species of *Merops* inhabiting Negros, alluded to by Mr. L. C. Layard (Ibis, 1872, p. 96).

The Bee-eater which inhabits Sumatra, Malacca, and Borneo (Plate XXVI. fig. 2, *in orig.*), and hitherto referred to *M. badius*, Gm., will stand:—

Merops sumatranus, Raffles, Tr. L. Soc. vol. xiii. p. 294, "Sumatra" (1821).

Merops cyanopygius, Less. Tr. p. 238, *Patr. non indic.* (1831), ex "Sumatra and Java," *fide* Pucher. R. Mag. Zool. 1853, p. 391.

Tr. Z. S. ix. p. 152. *Melittophas hypoglaucus*, Reichenb. Handb. p. 82 (1854).

Melittophas bicolor (Bodd.), ap. Cab. Mus. Hein. pt. 2, p. 137, "Malacca, Borneo, Sumatra," nec Bodd.

Merops badius, Gm., auct. recent., nec Gm.

Le Guêpier de Sumatra, Less., Complem. Buffon, ii. Ois. 2nd ed. pl. —, f. 2 (1840).

According to Dr. Pucheran (*l. c.*), *M. cyanopygius*, Lesson, adult, was founded on a Sumatran and a Javan example. Prince Bonaparte (Consp. i. p. 162) gives Sumatra and Borneo as the habitat. There is probably an error in the assigned Javan origin of this Bee-eater; for its occurrence in Java rests on no good authority. The type of *M. cyanopygius*, Lesson, juv., ex Sumatra, Dr. Pucheran remarks, resembles Pl. Enl. 57. It may be *M. philippinus*, Linn.; for that species inhabits Sumatra: or it may be *M. sumatranus*, juv., before the chocolate plumage of the upper surface and the blue colouring of the throat have been assumed.

CORACIIDÆ.

EURYSTOMUS, Vieillot.

37. EURYSTOMUS ORIENTALIS.

Galgulus indicus, Brisson, Orn. ii. p. 75, no. 4, "India orientalis."

Coracias orientalis, Linn. S. N. i. p. 154, no. 4 (1776), ex Brisson; Un. St. Expl. Exped. Zool. p. 228; Walden & Layard, Ibis, 1872, p. 100 †.

Hab. Luzon, February; Cujo Island, December; Guimaras, March (*Meyer*); Negros (*L. C. Layard*).

As determined by Dr. Meyer, the sexes do not differ. Javan, Malaccan, Celebean, and Philippine examples are identical.

ALCEDINIDÆ.

ALCEDININÆ.

ALCEDO, Linnæus.

38. ALCEDO BENGALENSIS.

Little Indian Kingfisher, Edwards, Illustr. i. p. 11, pl. 11. fig. inf., "Bengal."

Ispida bengalensis, Briss. Orn. iv. p. 475, ex Edwards.

Alcedo bengalensis, Gm. S. N. i. p. 450, no. 20 (1788), ex Brisson; Sharpe, Monogr. *Alcedinidæ*, pl. 68.

Hab. Luzon (*Meyer*).

Le vintsi of Buffon (Hist. Nat. Ois. vii. p. 205), and called by D'Aubenton (Pl. Enl. 756) *Petit Martin-pêcheur de l'isle de Luçon*, is now known to be a purely African species, *Corythornis cristata* (Linn.).

ALCYONE, Swainson.

39. * ALCYONE CYANOPECTUS. Tr. Z. S. ix. p. 153.

Ceyx cyanopectus, La Fresnaye, Rev. Zool. 1840, p. 33, *Patr. ignot.*; Sharpe, Monogr. pl. 31; Schlegel, Mus. Pays-Bas, *Alcedines*, p. 18.

Hab. Philippines (*Eyton*, *Schlegel*).

Although there is a general concurrence of evidence showing that this interesting form inhabits some part of the Philippines, its exact *habitat* still remains unknown.

PELARGOPSIS, Gloger.

40. * PELARGOPSIS GOULDI.

Pelargopsis gouldi, Sharpe, P. Z. S. 1870, p. 61, "Luzon;" Monogr. pl. 59.

Hab. Manilla (*Cuming*).

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† [*Anteà*, p. 119.—ED.]

DACELONINÆ.

CEYX, Lacépède.

41. * CEYX MELANURA.

Alcedo melanura, Kaup, Fam. der Eisv. p. 15 (1848); Sharpe, Monogr. pl. 39.

Hab. Philippine Islands (*mus. nostr.*); Manilla (*mus. J. Gould*).

42. CEYX TRIDACTYLA.

Alcedo trydactyla, Pallas, Spic. Zool. fasc. vi. p. 10, pl. 2. f. 1 (1769); Sharpe, Monogr. pl. 23; v. Martens, J. f. O. 1866, p. 18, no. 85.

Le Martin-pêcheur de l'isle de Luçon, Sonn. Voy. Nouv. Guin. p. 67, pl. 32.

Alcedo tridactyla, Scopoli, Del. Fl. Faun. Insubr. ii. p. 90, no. 56 (1786), ex Sonn.

Ceyx luzoniensis, Stephens, Gen. Zool. xiii. pt. 2, p. 106, "Luçonia" (1826).

Alcedo (*Ceyx*) *purpurea*, Gm., v. Martens, *l. c.* no. 86.

Hab. Philippines (*Cuming*).

The absolute identity of the Philippine with the continental three-toed Kingfisher has yet to be established.

43. * CEYX PHILIPPINENSIS.

Ceyx philippinensis, Gould, P. Z. S. 1868, p. 404, "vicinity of Manilla;" Sharpe, Monogr. pl. 24.

Hab. Manilla (*J. Gould*).

Both Messrs. Sharpe and Gould regard the type individual, the only example that has reached England, as distinct from *Alcyone cyanopectus*. In deference to their opinion it is treated here as a separate species, a position I trust future investigation may justify (*conf.* Salvadori, Atti R. Accad. Sc. Torino, iv. (1869) p. 445).

Tr. Z. S. ix. p. 154.

ENTOMOBIA, Cabanis.

44. * ENTOMOBIA GULARIS.

Ispida madagascariensis cærulea, Briss. Orn. iv. p. 496, no. 32, "Madagascar."

Alcedo smyrnensis, var. β, Linn. S. N. i. p. 181 (1766), ex Briss.

Le Martin-pêcheur bleu et roux, Buffon, Hist. Nat. vii. p. 182, ex Brisson.

Grand Martin-pêcheur de Madagascar, D'Aubent. Pl. Enl. 232.

Alcedo gularis, Kuhl, Buff. & D'Aubent. Fig. Av. Col. Nom. Syst. p. 4 (1820), ex D'Aubent.

Alcedo rufirostris, Illiger, Mus. Berol.; Kittlitz, Kupfert. pt. 2, p. 10, pl. xiv. f. 2, "Luzon" (1833).

Halcyon gularis (Kuhl), Sharpe, Monogr. pl. 70; Walden & Layard, Ibis, 1872, p. 101.

Hab. Luzon (*mus. nostr.*); Negros (*L. C. Layard*); Zebu (*Meyer*).

Neither in D'Aubenton's plate is the white throat represented, nor in Buffon's description is it alluded to. But Brisson mentions it in his accurate diagnosis, made, as he states, from an example obtained by Poivre in Madagascar.

Mr. Strickland was the first author who suggested the Philippines as the probable only habitat of this Kingfisher (Ann. N. H. 1844, vol. xiii. p. 34).

Dr. v. Martens includes *Entomobia fusca* (Bodd.), as well as this species, in his list of Philippine birds (*tom. cit.* p. 17, no. 79), and quotes Meyen as his authority. Meyen (Nov. Act. xvi. suppl. prim. 94), however, states in decided terms that the Philippine species is distinct from *A. smyrnensis*, L.; and he adopts Illiger's title of *A. rufirostris*. Mr. Sharpe (*op. cit.* pt. x. pl. 79) also includes the Philippines within the range of *A. smyrnensis*, L., but on, apparently, no better evidence than Professor Schlegel's record of a Philippine specimen in the Leyden Museum (Mus. P.-Bas, *Alcedines*, p. 28). The probabilities are that the Leyden example, if really from the Philippines, belongs to *E. gularis* (Kuhl), a title treated by Professor Schlegel (*l. c.*) as a synonym of *A. fusca*, Bodd. The occurrence of *Entomobia smyrnensis* (Linn.)=*A. fusca*, Bodd., in the Philippines rests upon no other evidence whatever, and certainly requires confirmation.

45. ENTOMOBIA PILEATA.

Martin-pêcheur de la Chine, D'Aubent., Pl. Enl. 673.

Le Martin-pêcheur à coiffe noire, Buffon, Hist. Nat. vii. p. 189, "la Chine" (1780).

Alcedo pileata, Bodd. Tabl. Pl. Enl. p. 41 (1783), ex D'Aubent.; Sharpe, Monogr. pl. 3.

Hab. Philippines (*fide* Schlegel, Mus. Pays-Bas, *Alcedines*, p. 27).

That this species inhabits the Philippines is not improbable; but a single example in the Leyden Museum, said to be from those islands, collector not named, appears to be the only evidence of the fact. Mr. Sharpe (*l. c.*) seems to take it for granted; and Professor Schlegel (Vog. Ned. Ind., *Alced.* pp. 22, 54) includes the Philippines, without hesitation, within the range of this Kingfisher.

Alcedo albiventris, Scop.,=*Alcedo luzonica*, Gm., both founded on Sonnerat's *Martin-pêcheur de l'isle de Luçon*, Voy. Nouv. Guin. p. 65, pl. 31, is a well-known African form.

To *Tanysiptera nympha*, G. R. Gray (Ann. Nat. Hist. 1841, p. 237, "*Patr. incert.*," described from an imperfect specimen of a New-Guinea Kingfisher), Prince Bonaparte (Consp. i. p. 157) erroneously ascribed a Philippine origin; and it consequently found a place in Dr. v. Martens's list (*tom. cit.* p. 18).

Tr. Z. S. ix. p. 155.

CALIALCYON, Bonaparte.

46. CALIALCYON COROMANDA.

Le Martin-pêcheur violet des Indes, Sonn. Voy. Ind. ii. p. 212, pl. 118.

Alcedo coromanda[†], Lath. Ind. Orn. i. p. 252 (1790), ex Sonn.; Sharpe, Monogr. pl. 69.

Dacelo coromandeliana (Scopoli), Schlegel, Mus. Pays-Bas, *Alcedines*, p. 24.

Hab. Philippines (*Schlegel*, fide *Verreaux*).

[†] This species is treated by Mr. Sharpe (Monogr. Alcedinidæ, pp. xiii, liv) as the type of *Entomothera*, Horsf. (Tr. L. Soc. xiii. p. 173, note, 1820). The term *Entomotheræ* was used by Dr. Horsfield (for he wrote it in the plural only) to indicate his second division of the Linnæan genus *Alcedo*, a section within which he embraced *A.* (*Ceyx*) *tridactyla*, *A.* (*Pelargopsis*) *leucocephala*, *A.* (*Calialcyon*) *coromanda*, *A.* (*Sauropatis*) *chlorocephala*, and *A.* (*Entomobia*) *melanoptera*. There is nothing contained in Dr. Horsfield's observations to indicate *A. coromanda* as the type, or even as typical of, his *Entomotheræ*.

The occurrence of this species in the Philippines rests solely on the somewhat doubtful authority cited.

SAUROPATIS, Cabanis.

47. SAUROPATIS CHLORIS.

Le Martin-pêcheur à tête verte, Buffon, Hist. Nat. vii. p. 190, "Bouro."

Martin-pêcheur à tête verte du Cap-de-Bonne-Espérance, D'Aubent. Pl. Enl. 783. f. 2.

Alcedo chloris, Bodd. Tabl. Pl. Enl. p. 49 (1783), ex D'Aubent.

Le Martin-pêcheur à collier blanc des Philippines, Sonn. Voy. Nouv. Guin. p. 67, pl. 33.

Alcedo collaris, Scop. Del. Fl. Faun. Insubr. ii. p. 90, no. 56 (1786), ex Sonn.; Kittlitz, Kupfert. pt. 2, p. 10, pl. xiv. f. 1, "Luzon" (1833).

Halcyon chloris (Bodd.), Sharpe, Monogr. pl. 87; Walden & Layard, Ibis, 1872, p. 101 †.

Hab. Luzon, Zebu, Guimaras (*Meyer*); Negros (*L. C. Layard*).

ACTENOIDES, Hombron & Jacquinot.

48. * ACTENOIDES HOMBRONI.

Acténoïde variée, Hombron & Jacquin. Voy. Astrol. ‡, Atlas, pl. 23. fig. 2.

Actenoides hombroni, Bp. Consp. i. p. 157 (1850), ex Hombr. & Jacquin.; Sharpe, Monogr. pl. 115.

Actenoides variegata, Pucher. & § Jacquin. Voy. Astrol. ‡, Zool. iii. p. 101, "Mindanao" (1853).

Hab. Samboangan, Mindanao (*Hombr. & Jacquin.*).

Dr. v. Martens (*tom. cit.* p. 17, no. 81) describes an example of a Kingfisher he observed in
Tr. Z. S. ix. p. 156. the collection of the Military Library of Manilla in these words:—"*Alcedo* (*Entomobia*), sp., above brown, with pale spots; underneath white, with grey spots. Back of the head and on each side a spot at gape, azure blue. Cheeks and throat red brown. Forehead brown, striated with black. Allied to *A. pulchella*, Horsf."

This may possibly be *A. hombroni* in immature plumage.

49. * ACTENOIDES LINDSAYI.

Dacelo lindsayi, Vigors, P. Z. S. 1831, p. 97, adult, "neighbourhood of Manilla;" Sharpe, Monogr. pl. 114; Eydoux & Souleyet, Voy. Bonite, pl. 7; Gray & Mitch. Genera of Birds, pl. 27.

Dacelo lessoni, Vigors, *l. c.*, junior.

Hab. Luzon (*Eydoux & Souleyet*).

This and the last species, together with *Dacelo concreta*, Temm., form a natural subdivision; and I retain for it Hombron's generic title of *Actenoides*, merged by Mr. Sharpe in the unwieldy group he has united under the generic name of *Halcyon*.

Mr. Sharpe (*tom. cit.*) enumerates thirteen Philippine Kingfishers. I have reduced this number to twelve by the exclusion of *E. smyrnensis*. Satisfactory proof of the Philippine habitat of two others, *C. coromanda* and *E. pileata*, is still needed; and the specific validity of *Ceyx philippensis* has yet to be confirmed.

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† [*Anteà*, p. 119.—ED.] ‡ [Apparently a slip of the pen for Voy. Pôle Sud.—ED.] § [*Lege* Hombron &.—ED.]

CAPITONIDÆ.

MEGALÆMINÆ.

XANTHOLÆMA, Bonaparte.

50. XANTHOLÆMA HÆMACEPHALA.

Le Barbu des Philippines, Briss. Orn. iv. p. 99, "Philippensibus Insulis" (1760), *descr. orig.*

Barbu des Philippines, D'Aubent. Pl. Enl. 331.

Barbu à gorge jaune, Buff. H. Nat. Ois. vii. p. 102, pl. 5.

Bucco hæmacephalus, L. S. Müller, Suppl. p. 88, "Philippines" (1776), ex Pl. Enl. 331.

Bucco flavigula, Bodd. Tabl. p. 30, ex Pl. Enl. 331 (1783).

Bucco philippensis, Gm. S. N. ed. xiii., i. p. 407, no. 7, ex Briss. (1788).

Capito flavicollis, Vieill. Enc. Méthod. Orn. iii. p. 1424, "Les grandes Indes" (1823), ex Brisson.

Indian Barbet, Lath. Syn. Suppl. p. 57, no. 18, "India" (1787).

Bucco indicus, Lath. Ind. Orn. i. p. 205, ex Lath. (1790).

Le Barbu à collier rouge, Le Vaillant, H. Nat. *Barbus*, p. 78, pl. 35, "une grande partie de l'Inde."

Bucco rubricollis, Cuv. R. An. i. p. 457 (1829), ex Le Vaill. pl. 35.

Le Barbu à plastron rouge, mâle, Le Vaillant, *tom. cit.* p. 81, pl. 36, "une grande partie de l'Inde."

Bucco luteus, Less. Trait. p. 163, "Pondicherry" (1831); Des Murs, Icon. Orn. pl. 21 (*var. lutea*).

Bucco rafflesius, Boie, Briefe aus Ostind. no. 15, "Sumatra" (1832).

Xantholæma philippensis (Brisson), Bonaparte, Consp. Volucr. Zygodactyl. p. 12 (1854).

Xantholæma indica (Lath.), Jerdon, Birds of India, i. p. 315 (1862).

Megalæma philippensis (Gm.), v. Martens, J. f. O. 1866, p. 20, no. 111.

Xantholæma hæmacephala (Müll.), Marsh. Monogr. *Capitonidæ*, pl. 42, "Umballa" (1870).

? *Le petit Barbu*, Buff. Hist. Nat. Ois. vii. p. 105, "Sénégal."

? *Barbu du Sénégal*, D'Aubent. Pl. Enl. 746. f. 2.

? *Bucco parvus*, Gm. S. N. ed. xiii., i. p. 407. no. 9 (1788), ex Buff.

? *Bucco nanus*, Bodd. Tabl. p. 47, ex Pl. Enl. 746. f. 2 (1783).

Tr. Z. S. ix. p. 157.

Hab. Luzon (*Meyer*); Zamboanga (*v. Martens*).

The Messrs. Marshall (*op. cit.*), after a comparison made between Indian and Philippine examples, arrived at the conclusion that individuals from all parts of India could not be *specifically separated* from the Philippine species. Numerous individuals from Luzon, in Dr. Meyer's collection, enable me on the whole to adopt this opinion. Taken collectively, the Luzon birds, while agreeing in general dimensions with those from various parts of continental India, have a longer and more massive bill; the red occipital feathers extend further back, terminating in a line with the ends of the yellow supercilium; the green of the upper plumage is some shades darker; and the longitudinal centres of the pectoral and abdominal feathers are more boldly marked, and therefore more prominent. To this extent only has the Philippine race become differentiated through time and isolation.

The example described by Brisson (*tom. cit.* p. 10) as that of a female is evidently that of a young bird. The sexes do not differ.

I have referred *le petit Barbu* of Buffon, and its synonyms, to this species, but with considerable doubt. He described from an apparently immature bird in a plumage I have never seen assumed by the youngest Philippine Barbet; moreover his type was said to be from Senegal†.

Notwithstanding Le Vaillant's protestations, the bird figured by him (*tom. cit.* pl. 35) clearly belongs to *X. hæmacephala*.

51. XANTHOLÆMA ROSEA.

Le Barbu rosegorge, Le Vaillant, Hist. Nat. Ois. Parad. ii. p. 75, pl. 33, "Java."

Bucco roseus, Dumont, Dict. Sc. Nat. (1st. ed.) iv. p. 52 (1806), ex Le Vaillant.

Capito rosaceicollis, Vieillot, N. Dict. iv. p. 500 (1816), ex Le Vaillant; Vigors, Mem. Sir S. Raffles, p. 667, "Java."

Bucco roseus, Cuv. R. A. 1817, i. p. 428, ex Le Vaillant; Walden & Layard, Ibis, 1872, p. 100, "Negros." [*Anteà*, p. 118.]

Bucco philippensis, apud Horsf. Tr. Linn. Soc. xiii. p. 181, "Java," nec Gm.

Xantholæma rosea (Dum.), Marsh. Monogr. *Capitonidæ* ‡, pl. 43 (1871).

Hab. Negros (*L. C. Layard*).

Tr. Z. S. ix. p. 158. Java and the Philippine island of Negros are the only localities known to be inhabited by this Barbet.

Le Barbu de l'isle du Lucon, Sonnerat, Voy. Nouv. Guin. p. 68, pl. 34.

Trogon luzonensis, Scopoli, Del. Fl. Faun. Insubr. ii. p. 89, no. 44 (1786), ex Sonn.

Bucco niger, Gm. S. N. i. p. 407, no. 8 (1788), ex Sonn.

Is an African species, unknown in the Philippines, *Pogonorhynchus leucomelas* (Bodd.), Marshall, Monogr. *Captitonidæ*, p. 12.

CYPSELIDÆ.

MACROPTERYX, Swainson.

52. MACROPTERYX § COMATUS (Temm.).

Cypselus comatus, Temm. Pl. Col. pl. 268, "Sumatra," ♂ (1824).

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† Temminck (Pl. Col. Tabl. Méthod. p. 56) makes it the same as *X. hæmacephala*, and says that it is the "jeune de l'année." But this is a mere assumption; for though the type specimen, which was preserved in Mauduit's cabinet, was figured in the 'Planches Enluminées,' it was lost or destroyed before Buffon wrote its description.

‡ *Bucco barbiculus*, Cuv. *l. c.*, ex Le Vaillant, *tom. cit.* p. 131, pl. 56, has been referred by Bonaparte (Consp. i. p. 143), by the Messrs. Marshall (*l. c.*), and by Mr. G. R. Gray (Hand-list, no. 8445) to this species. It is, however, palpably founded on *Bucco rubricapillus*, Gm., ex Ceylon. Indeed, under this last species Le Vaillant's fifty-sixth plate is referred to by the Messrs. Marshall, although Cuvier's title based thereon is made a synonym of *X. rosea*. At least it is to be presumed that this is what is meant by *Le barbu varbichon* (instead of *barbichon*), and by p. 56 instead of pl. 56 (*conf.* Marshall, Monogr. *Capitonidæ*, pl. 44).

§ I cannot find that the title *Dendrochelidon*, Boie, was published prior to 1832.

Hab. Luzon, in January (*Meyer*).

The male is distinguished from the female by having the region of the ears deep rufous; and all the other male members of the genus display more or less rufous on the ear-coverts.

Luzon examples have the wings nearly half an inch longer than Sumatran and Malaccan individuals in my collection. Otherwise no material difference is to be observed.

Collocalia, G. R. Gray.

53. * Collocalia troglodytes.

Collocalia troglodytes, G. R. Gray (*descr. nulla*), Gray & Mitch. Genera of Birds, pl. 19, "*Patr. non indic.*" (1844–49); *id.* List of Birds Brit. Mus., *Fissirostres*, p. 21, no. 3, "Malacca" (1848); Wallace, P. Z. S. 1863, p. 384; v. Martens, J. f. O. 1866, p. 18; Bp. Compt. Rend. xli. p. 977; von Pelzeln, Reise der Novara, *Aves*, p. 40 (1865); G. R. Gray, Ann. Mag. N. H. (3) xvii. p. 119, "Philippine Islands" (1866); G. R. Gray, Hand-list, no. 748, "Philippines."

Collocalia, sp., Blyth, Ibis, 1865, p. 30, "Philippines."

Hab. Luzon (*Jagor*).

A species belonging to that section of the genus of which *C. francica* may be considered the type. It is the smallest of all the known species of that group, its dimensions not exceeding those of *C. fuciphaga* (Thunb.)=*C. linchi* (Horsf.). A narrow, well-defined, pure white band crosses the rump, and constitutes its chief differential character.

Tr. Z. S. ix. p. 159.

The two examples on which Mr. G. R. Gray bestowed the above title are still extant in the British Museum, and bear on their labels Malacca as their *habitat*. They were obtained from Cuming; and Mr. G. R. Gray (List of B. *l. c.*) gave Malacca as the origin of the species. Mr. Wallace (*l. c.*), who was the first author who described the types, suggested the Philippines (although with doubt) as a *habitat* of the species in addition to that of Malacca. Dr. v. Martens (*l. c.*) without hesitation identified the Philippine form of *Collocalia* with *C. troglodytes*. And, finally, Mr. G. R. Gray (Ann. N. H. *l. c.*) in 1866 abandoned Malacca as its *habitat* and substituted the Philippines, to which archipelago he restricted it; and so it stands in the Hand-list (*l. c.*). Mr. G. R. Gray has nowhere stated his reasons for this alteration of the *habitat* he had originally assigned. But there seems to be little doubt that he arrived at a sound conclusion, and that *C. troglodytes* represents one of the Philippine edible-nest constructing Swifts. The Malaccan *Collocalia* is identical with *C. francica*. Whether a species belonging to the *C. fuciphaga* group is likewise found in the Malay peninsula and adjacent islets is unknown, nor has a species of that group been as yet discovered by any naturalist in the Philippines.

The specimen contained in the Vienna Museum, and stated by Herr v. Pelzeln (*l. c.*) to have been obtained at Manilla by Cuming, so far as description goes, agrees well with the British-Museum types.

CAPRIMULGIDÆ.

Lyncornis, Gould.

54. * Lyncornis macrotis.

Caprimulgus macrotis, Vigors, P. Z. S. 1831, p. 97, "neighbourhood of Manilla;" Gould, Icones Av. pt. 2, pl. —; G. R. Gray, Hand-list, no. 713.

Hab. Manilla (*Lindsay*).

The range of this fine Goatsucker within the islands is quite unknown. The individual noted by Mr. G. R. Gray (*l. c.*) as being a variety from North China, is identical with authentic Philippine examples. It was obtained from Mr. Fortune.

Caprimulgus, Linnæus.

55. Caprimulgus manillensis.

Caprimulgus manillensis, G. R. Gray, List Brit. Mus. *Fissirostres*, p. 7, no. 11, "Manilla" (1848), *descr. nulla*; Hand-list, no. 637.

? *Caprimulgus macrourus*, Horsf., v. Martens, J. f. O. 1866, p. 19, no. 94, "Philippines."

Caprimulgus, sp., Walden, Tr. Zool. Soc. viii. p. 115, no. 2, "Celebes." [*Anteà*, p. 212.]

Tr. Z. S. ix. p. 160. Belongs to the same section as *C. albonotatus*, *C. nigripennis*, *C. macrurus*, and *C. schlegelii*. It agrees well with the single Celebean example above referred to. The two type specimens in the British Museum are not fully adult. Outer pair of rectrices with only the terminal portion of the inner web white. Both webs white in the second outer pair. This is probably the species observed by Dr. v. Martens in the collection of the Manilla Military Library and identified by him with *C. macrurus*, Horsf.

56. *Caprimulgus griseatus.

Caprimulgus griseatus, G. R. Gray, Hand-list, no. 629, "Philippines" (1869), *descr. nulla*.

Founded on a single example, in the British Museum, obtained from the Philippines through the Brothers Verreaux. It belongs to the same group as *C. monticola* and *C. affinis*, being intermediate in dimensions. Wing 6·25, tail 4 inches. The type is in very grey plumage. More examples must be compared before its specific distinctness can be established.

CUCULIDÆ.

Cuculinæ.

Cacomantis, S. Müller.

57. *Cacomantis merulinus.

Le petit Coucou de l'isle de Panay, Sonnerat, Voy. Nouv. Guin. p. 121, pl. 81.

Cuculus merulinus, Scopoli, Del. Fl. Faun. Insubr. ii. p. 89, no. 48 (1786), ex Sonn.; Schlegel, part., Mus. Pays-Bas, *Cuculi*, p. 21.

Petit Coucou de l'isle de Panay, D'Aubenton, Pl. Enl. 814, ex Sonn.†

Le Coucou à tête grise et ventre jaune, Montbeillard, Hist. Nat. Ois. vi. p. 382, ex Sonn.

Cuculus flavus, Gm. S. N. i. p. 421, no. 45 (1786), ex Montbeillard, ex Sonn.; Walden, Ibis, 1869, p. 332.

Hab. Luzon (*Gevers*); Panay (*Sonnerat*).

On this and its allied forms *conf.* Walden, Tr. Z. S. viii. p. 53. [*Anteà*, p. 156.]

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† There can be little doubt that D'Aubenton figured Sonnerat's type.

CHALCOCOCCYX, Cabanis.

58. * CHALCOCOCCYX AMETHYSTINUS.

Lampromorpha amethystina, Vigors, P. Z. S. 1831, p. 98, "neighbourhood of Manilla."

Cuculus xanthorhynchus, Horsf., apud v. Martens, J. f. O. 1866, p. 19, no. 97.

Mr. Blyth in 1842 (J. A. S. B. xii. 1, p. 245) expressed himself unable to see in what the Philippine *Amethystine Cuckoo*, as described by Vigors (*l. c.*), differed from the Javan and Malayan species, and in his catalogue of the Calcutta Museum, no. 354, identified the two forms under Horsfield's title. But there is no evidence that examples had been compared; and no Philippine example was contained in the Calcutta Museum. All subsequent authors appear to have followed suit, yet without having compared actual specimens. In the 'Conspectus' (i. p. 107) Bonaparte united the two titles, and even left out the Philippine *habitat*. Dr. Cabanis (Mus. Hein. iv. p. 15), Horsfield and Moore (Cat. E. Ind. Co. Mus. ii. p. 706), Dr. v. Martens (*l. c.*), Professor Schlegel (Mus. Pays-Bas, *Cuculi*, p. 32), and Mr. G. R. Gray (Hand-list, no. 9049), all made the same identification; and yet no Philippine examples are recorded as being preserved in any of the Museums these authors had access to.

Tr. Z. S. ix. p. 161.

Cuculus xanthorhynchus, Horsf., extends to Borneo; and it is therefore not of itself improbable that it also occurs in Luzon; but as there is no positive evidence of the fact, it is best to keep the two titles separate until the contrary is proved.

HIEROCOCCYX, S. Müller.

59. * HIEROCOCCYX STRENUUS.

Hierococcyx strenuus, Gould, P. Z. S. 1856, p. 96, "Manilla;" id. Birds of Asia, pt. viii. pl. 31, "Manilla" (1856); Blyth, Ibis, 1866, p. 362.

Hierococcyx sparverioides (Vigors), G. R. Gray, Hand-list, 9057.

Hab. Manilla (*Gould*).

Hardly separable from *H. sparverioides* (Vigors). Mr. G. R. Gray (*l. c.*) unites the two forms. Mr. A. Hume treats them as distinct; for (Pr. A. S. B. 1872, p. 71) that gentleman states that *H. strenuus*, Gould, inhabits Thayetmyo. Before this identification can be accepted, it will be as well to compare Thayetmyo individuals with the type (the only specimens existing) in the British Museum.

60. * HIEROCOCCYX PECTORALIS.

Hiracococcyx pectoralis, Cab. Mus. Hein. iv. pt. 1, p. 27, no. 23, "Philippines" (1862).

? *Cuculus hyperythrus*, Gould, P. Z. S. 1856, p. 96, "China;" Birds of Asia, pt. viii. "Shanghai."

Hab. Philippines (*Cabanis*).

Mr. Swinhoe has remarked that the British-Museum specimen of *C. hyperythrus* is labelled "Manilla" (P. Z. S. 1871, p. 305, no. 456).

Coucou à ventre rayé de l'isle Panay, Sonn. Voy. Nouv. Guin. p. 120, pl. 79.

Cuculus flaviventris, Scop. Del. Fl. Faun. Insubr. ii. p. 89, no. 46 (1786), ex Sonn.

Cuculus radiatus, Gm. S. N. i. p. 420, no. 44 (1788), ex Sonn.

Tr. Z. S. ix. p. 162.

Sonnerat's account and figure of this supposed Philippine species of *Cuculus* agrees well with *Cuculus solitarius*, Vieillot †; and I have little doubt that Sonnerat in this, as in so many other instances, described from an African and not a Philippine individual. The titles, however, founded on Sonnerat's plates have been much bandied about, and applied to various species of Asiatic Cuckoos, by different authors (*conf.* Blyth, J. A. S. B. 1842, p. 900; Cat. Calc. Mus. p. 336; Ibis, 1866, p. 362; Strickl. J. A. S. B. 1844, p. 390; Cab. Mus. Hein. iv. pt. 1, p. 29; Jerdon, Ibis, 1872, p. 14).

EUDYNAMIS, Vigors & Horsfield.

61. * EUDYNAMIS MINDANENSIS.

Cuculus mindanensis nævius, Brisson, Orn. iv. p. 130, no. 12, ♀ adult. vel ♂ adolesc., "Ins. Mindanao."

Cuculus mindanensis, Linn. S. N. i. p. 169, no. 3 (1766), ex Briss.; Walden, Ibis, 1869, pp. 330, 340. [*Anteà*, pp. 60, 66.]

Le Coucou tacheté de l'isle de Panay, Sonn. Voy. Nouv. Guin. p. 120, pl. 78, ♀ adult. vel ♂ adolesc., "Antigua."

Cuculus variegatus, Scopoli, Del. Fl. Faun. Insubr. ii. p. 89, no. 45 (1786), ex Sonn.

Cuculus panayanus, Gm. S. N. i. p. 413, no. 29 (1788), ex Sonn.

Hab. Guimaras, in March (*Meyer*).

Both examples are of males in full black plumage. Mr. Swinhoe (Ibis, 1870, p. 233) seems to regard the Chinese species, *E. maculata* (Gm.), as distinct from the Philippine, and moreover separates the Hainan form from the Chinese, and identifies it with the Himalayan.

The Guimaras examples have the plumage black shaded with green and not with blue. I add the principal dimensions (in inches) of six known species of the group, taken from males in adult black plumage.

	Longitudo		
	alæ.	caudæ.	
E. honorata	7·50	8	Ceylon.
,,	7·50	7·75	Candeish.
E. malayana	7·75	8·50	Malacca.
,,	7·50	8	Java.
E. mindanensis	7·50	8	Guimaras.
,,	7·50	7·50	,,
E. ransomi	8·50	9	Bouru.
E. rufiventer	8	8·37	Moratai.
E. cyanocephala	8	8·50	Queensland.

The bill in the Malaccan bird is longer and not so high as that of the Javan.

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† *Cuculus capensis*, Gm., founded on *le Coucou du cap de Bonne-espérance*, Montb. (Hist Nat. Ois. vi. p. 353), is a Cuckoo in hepatic plumage, which it is difficult to determine.

Phœnicophainæ.

Dasylophus, Swainson.

62. * Dasylophus superciliosus.

Phœnicophaus superciliosus, Cuv. Mus. Paris; Drapiez, Dict. Class. vol. x. p. 55, "Philippines" (1826); Lesson, Tr. p. 133, "Philippines" (1831); Guérin, Icon. Règne An. pl. 33. f. 1.

Dasylophus superciliosus (Cuv.), Swains. Classif. Birds, ii. p. 324, pl. 286. fig. *a* (1837); Gray & Mitch. Genera, pl. 110. Tr. Z. S. ix. p. 163.

Phœnicophæus ornatus, Blyth, J. A. S. B. 1842, p. 925 (*Patr. non indic.*).

Hab. Luzon (*Meyer*).

A Luzon example, marked a male by Dr. Meyer, has the bill higher and stouter than another individual from the same island, stated on the label to be a female. Otherwise no difference whatever. In Mitchell's plate (*l. c.*) the white basal portion of the red superciliary plumes is not shown.

Lepidogrammus, Reichenbach.

63. * Lepidogrammus cumingi.

Phœnicophaus cumingi, Fraser, P. Z. S. 1839, p. 112, "Luzon;" Zool. Typica, pl. 53.

Phœnicophaus barrotii, Eydoux et Souleyet, Voy. Bonite, Ois. p. 89, "Luçon" (1841); Atlas, *op. cit.* pl. 6.

"*Cuculus decorus* †, Gravenh.," Bp. Consp. Vol. Zygod. p. 5, no. 19 (1854).

Hab. Luzon (*Meyer*).

Sexes alike. The iris is described by Cuming as being red.

Centropodinæ.

Centrococcyx, Cabanis.

64. * Centrococcyx viridis.

Le Coucou vert d'Antigue, Sonnerat, Voy. Nouv. Guin. p. 121, pl. 80 (*descr. orig.*).

Cuculus viridis, Scop. Del. Fl. Faun. Insubr. ii. p. 89, no. 47 (1786), ex Sonn.; Walden, Tr. Zool. Soc. viii. p. 58. [*Anteà,* p. 160.]

Cuculus ægyptius, var. γ, Gm. S. N. i. p. 420, no. 43, ex Sonn. (1788).

Coucou des Philippines, D'Aubent. Pl. Enl. 824; Montbeillard, Hist. Nat. Ois. vi. p. 369.

Cuculus ægyptius, var. β, Gm. *l. c.*, ex Montb.

Cuculus philippensis, Cuv. R. An. i. p. 426 (1817), ex D'Aubent.

Corydonis pyrrhopterus, Vieill. Enc. Méthod. iii. p. 1353 (1823), ex D'Aubent.

Centropus molkenboeri, Bp. Consp. i. p. 108, "Philippines" (1850).

Hab. Luzon, January, February; Negros, March; Guimaras, March; Zebu, April (*Meyer*).

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† I cannot find that Gravenhorst ever published this title.

Examples from the islands cited in no way differ. A very distinct species, somewhat smaller than *C. javanensis*, Dumont. Wings deep rufous as in *C. chlororhynchus*, Blyth; remainder of the plumage, tail included, black, shaded with bronze-green. Sexes alike (*fide* Meyer).

Tr. Z. S. ix. p. 164.

PYRRHOCENTOR, Cabanis.

65. * PYRRHOCENTOR MELANOPS.

Centropus melanops, Lesson, Traité d'Orn. p. 137, "Java!" *errore* (1831); Pucheran, R. et M. Z. 1852, p. 473; Cassin, Un. St. Expl. Exped. p. 249, pl. 22. fig. 1 (1858); Walden, Tr. Zool. Soc. viii. p. 56. [*Anteà*, p. 158.]

Centropus nigrifrons, Peale, Un. St. Expl. Exped. 1st ed. p. 137, "Mindanao" (1848); Hartlaub, Wiegmann's Archiv, 18ter Jahrgang, i. p. 107, no. 72 (1852).

Pyrrhocentor unirufus, Cab. Mus. Hein. iv. p. 118, "Philippines" (1862).

Hab. Mindanao (*Peale*).

I have followed Cassin in the above identification of *C. melanops* with *C. nigrifrons*, and I have little doubt, for reasons already stated (Walden, *l. c.*), that *P. unirufus* is the same species in immature plumage.

BUCEROTIDÆ.

BUCEROS, Linnæus.

66. * BUCEROS HYDROCORAX.

Hydrocorax, Brisson, Orn. iv. p. 566, no. 1, pl. 45, "Moluccis insulis," *av. juv.*

Buceros hydrocorax, Linn. S. N. i. p. 153, no. 2 (1766), ex Brisson; Temm. Pl. Col. 283, "Philippines," ♂ *adult.*

Calao des Moluques, D'Aubent. Pl. Enl. 283, *av. juv.*; Buffon, Hist. Nat. Ois. vii. pp. 140, 147.

Le Calao à casque plat, Le Vaillant, Ois. d'Afr. v. p. 127, pl. 240, *rostrum.*

Le Calao roux, Le Vaillant, Ois. Rares, i. p. 13, pl. 6, *av. juv.*

Buceros planicornis, Merrem †, *fide* Bp. Consp. i. p. 89.

Buceros platyrhynchus, Pearson ‡, J. A. S. B. 1841, p. 652.

Buceros obscurus, Peale, Un. St. Expl. Exped. 1st ed., Birds, p. 125, "Philippines" (1848), ♀ *juv.*, nec Gm.; Hartlaub, Archiv für Naturgesch. 18ter Jahrgang, i. p. 105.

Hab. Luzon. Iris in both sexes yellow (*Meyer*).

It is with some difficulty that we can bring ourselves to recognize the large red-billed Philippine Hornbill in Brisson's description and plate.

The dimensions given by that author fall far short of those possessed by the adult; and a plumage is described which I have not observed, and which is not possessed by a much younger individual, judging by the casque obtained by Dr. Meyer. The figure by D'Aubenton (*l. c.*) bears a striking resemblance to that in the 'Ornithologia,' and would almost seem to have been copied from Brisson's plate. The description, too, given by Buffon (*l. c.*) is incontestably not original, but extracted from Brisson; while Buffon's title seems to have originated in Brisson's assertion that his type inhabited the Moluccas. Tr. Z. S. ix. p. 165.

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† The reference to this title, as given by Giebel (Thesaurus, p. 499), is to me unintelligible.

‡ A title published, without description, in his Catalogue of the Birds of the Asiatic Society of Bengal at Calcutta. Mr. Blyth (*op. cit.* 1843, pp. 988, 989) gave a full description of the specimen—although he erroneously identified it with *B. cristatus*, Vieill. Later, in his Catalogue of the Calcutta Museum, p. 43, no. 176, he correctly identified the species.

Le Vaillant mentions (*l. c.*) that the example in Aubrey's cabinet, Brisson's type, was of a very young bird and much mutilated, both its tail and wings having been cut. It is difficult to decide, on the evidence we possess, how many individuals served as subjects for Brisson, D'Aubenton, and Le Vaillant. If we are to believe the last author, there were in Paris at least three examples:—first, Aubrey's—Brisson's type, and which Le Vaillant says he purchased when Aubrey's collection was sold; second, the subject of D'Aubenton's plate, said by Buffon to have been taken from a set-up specimen, but without mentioning to whom it belonged; third, the example figured by Le Vaillant (*l. c.*), and which he informs us he had acquired a short time previously. But, according to Temminck (*l. c.*), Le Vaillant figured the identical specimen which was the original subject of D'Aubenton's plate, and which at the time Temminck wrote (1824) was still preserved, although much deteriorated, in the Paris Museum.

On the whole, the probabilities are that there never was more than one specimen, and that the Brissonian type, which must have passed from Aubrey's collection to that of the Paris Museum. With Temminck's identification of this specimen as being the young of the large Philippine Hornbill we must rest content. Anyhow we may safely reject Le Vaillant's statement that *le Calao* of Brisson was the young of the *Calao à casque concave* of Le Vaillant, *op. cit.* plates 3 & 5, drawn from manufactured specimens with the heads only of *B. bicornis*. The drawing of the bill (*l. c.*) was made by Le Vaillant from a specimen in the Leyden Museum (*teste* Temm.).

The sexes of this species, as represented by the examples collected by Dr. Meyer, do not differ either in colouring or in dimensions. In a young bird, body-plumage dingy greyish tawny, the bill is entirely black, with the exception of the tip of the maxillæ and the under surface of the rami of the mandible, which are bright blood-red.

Buceros bicornis, Linn., and this species belong to the same natural section of the Hornbills †.

Hydrocorax philippinensis, Briss. Orn. iv. p. 568, no. 2, "Philippines," a title founded on a head and beak in M. Aubrey's cabinet, and said to have come from the Philippines, is, so far as we know, not a Philippine species, but identical with *B. bicornis*, Linn.

CRANIORRHINUS, Cabanis.

67. * CRANIORRHINUS LEUCOCEPHALUS. (Pl. XXVII. fig. 1, ♂; fig. 2, ♀, *in orig.*)

Buceros leucocephalus, Vieillot, N. Dict. d'Hist. Nat. iv. p. 592, "Moluques" (1816), *fide* Bp. Consp. i. p. 91.

Buceros sulcatus, Reinw., Temm. Pl. Col. 69, "Philippines et Mariannes" (1823); Schlegel, Mus. Pays-Bas, *Buceros*, p. 10.

Hab. Mindanao (*Schlegel*).

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† To which must be added *B. homrai*, Hodgs., if the Indian bird is specifically distinct from the Indo-Malayan.

Tr. Z. S. ix. p. 166. Vieillot bestowed the title above quoted on an individual preserved in Temminck's collection, said to be from the Moluccas, and which up to that time had not been described. Bonaparte (*l. c.*) identified the individual thus named with *B. sulcatus.* Vieillot's description leaves it to be inferred that the tail is black, and in that respect does not agree with the male or female of this Philippine Hornbill.

Temminck (*l. c.*) includes the Marianne archipelago within the range of this species—a statement which is contradicted by Quoy and Gaimard (Ann. Sc. Nat. vi. p. 150, note), who affirm from their own observation, that no species of *Buceros* inhabits those islands. In his sketch of the genus (Recueil d'Ois. 36^{e} livr.) Temminck only assigns the Philippines as the habitat. And Schlegel (*l. c.*) mentions that Temminck's type, still existing at Leyden, came from Mindanao, which is also the origin of the example in the British Museum.

The female differs from the male in having the whole body-plumage black.

PENELOPIDES, Reichenbach.

68. * PENELOPIDES PANINI. (Pl. XXVIII. fig. 1, ♂; fig. 2, ♀, *in orig.*)

Le Calao mâle à bec cizelé de l'isle de Panay, Sonnerat, Voy. Nouv. Guin. p. 123, pl. 82, "Panay," ♀.

Le Calao femelle à bec cizelé de l'isle de Panay, Sonn. *op. cit.* pl. 83, "Panay" (1776), ♂.

Calao de l'isle de Panay, D'Aubenton, Pl. Enl. 780, ♀; Buffon, Hist. Nat. Ois. vii. p. 140, no. 8, p. 145, ex Sonnerat.

Femelle du Calao de l'isle de Panay, D'Aubenton, *op. cit.* 781, ♂.

Buceros panini, Bodd. Tabl. Pl. Enl. p. 48, ex D'Aubenton (1783).

Buceros panayensis, Scop. Del. Fl. Faun. Insubr. ii. p. 87, no. 30, ex Sonn. (1786).

Buceros panayensis, Gm. S. N. i. p. 360, no. 9, ex Sonn. (1788).

Le Calao à bec cizelé, mâle, Le Vaillant, Ois. Rares, i. p. 34, pl. 16, ♀ adult.

Femelle du Calao à bec cizelé, Le Vaillant, *tom. cit.* pl. 17, ♂ adult.

Buceros insculptus, Dumont de St. Croix, Dict. Sc. Nat. vi. p. 209, ex Buff., Sonn., Le Vaill. (1817).

Buceros sulcirostris, Wagler, Syst. Av. p. 201, no. 13, ♂, ♀, ex D'Aubenton (1827).

Hab. Island of Guimaras, March (*Meyer*); Panay (*Sonnerat*).

Sonnerat, during his visit to the island of Panay in the beginning of the year 1772, obtained examples, male and female, of a small Hornbill, which he brought to Paris.

This species he described and figured (*l. c.*). The description and figure of the male (female according to Sonnerat, pl. 83) are correct; but the description of the female (pl. 82) is erroneous in so far that Sonnerat states that the breast and abdomen are coloured alike in both sexes. This error is also to be found represented in the plate (82)†; and I am unable to offer a satisfactory explanation. D'Aubenton figured (*l. c.*) both sexes correctly; but, curiously enough, Tr. Z. S. ix. p. 167. Buffon (*l. c.*), instead of giving an original description, copied that of Sonnerat, and, although he quoted D'Aubenton's plates, omitted to notice the discrepancy.

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† Le Vaillant (*l. c.*) remarks that the figure of the female (pl. 83) is absolutely nothing but that of the male, counter-drawn line for line and reversed. Even if this be true, it does not account for the erroneous description given in the letterpress. Le Vaillant figures (*l. c.*) and describes both sexes with sufficient accuracy.

Le Vaillant's figure (*l. c.* pl. 17) and that by D'Aubenton (*l. c.* pl. 781) were drawn from the same example, which was preserved in the Abbé Aubrey's cabinet (*fide* Le Vaill. *l. c.*). At the time Le Vaillant wrote (1810), five examples of this species were known to him. Since that date there is no recorded evidence of any other having been brought to Europe.

At some time previous to the year 1780 Poivre sent to the Royal cabinet in Paris an example of a small Philippine Hornbill, which D'Aubenton figured (*op. cit.* pl. 891) and which Buffon described (*tom. cit.* p. 144) under the title of *Calao de Manille*. This example no longer existed at the Jardin des Plantes in 1810 (*fide* Le Vaill.); but Le Vaillant figured (*tom. cit.* pl. 18) a second example, given to the Abbé Aubrey by Poivre. The origin of Poivre's Hornbill can only be inferred from the title bestowed by Buffon. That it belonged to a new and distinct species, was perfectly recognized by Buffon; yet Le Vaillant identified it (1810) as the young of Sonnerat's Hornbill, and this identification has been quietly acquiesced in by every author, save Meyen, ever since, even by the astute Wagler. The considerable series of individuals obtained by Dr. Meyer in Luzon and in the island of Guimaras, close to that of Panay, completely establishes the fact that the Hornbills brought to France by Poivre and by Sonnerat belonged to two separate species.

The adult male has the head, including a large crest, lower throat, sides of the neck, breast, and abdomen, bright tawny. The upper part of the throat between the rami of the mandibles, a stripe from the gape, bounding the naked space below the eye, the cheeks, where not denuded, and the ear-coverts jet-black. The latter are much elongated, and a few of the uppermost mingle with the lateral crest-plumes. The abdomen is washed with ferruginous, which changes into much deeper ferruginous on the thighs, under tail-coverts, vent, rump, and upper tail-coverts. The back and wings are uniform black, strongly glossed with green. The rectrices for the first seven inches are of a paler ferruginous, some on the outer web narrowly fringed with black. The tail-feathers for the remaining three inches are black, glossed with green, like the back. The shafts are black throughout their lengths. The black of the apical part of the tail runs up the outer webs of the outer pair of rectrices for a short distance. The quills are black, glossed with green, on their outer webs. The chin, cheeks, and space surrounding the eye are devoid of feathers.

A second example only differs in having the ferruginous portion of the rectrices of a paler hue, almost buff, and by the absence of the narrow black exterior fringe.

The adult female differs from the male in being entirely black, with the exception of the rectrices, which are marked and coloured as in the male. In one example the entire outer web of the fifth pair of rectrices is black; in another this is only partially the case.

To the flattened side of the maxilla is attached a plate which extends from the base for two thirds of the length of the maxilla. In the thickness of this plate are six narrow and shallow, almost perpendicular, grooves, coloured yellow in the dried specimen. A similar plate has grown on the sides of the mandible, and is grooved by narrower and more deeply cut diagonal channels. A narrow casque springs from the forehead, which, somewhat swollen posteriorly, is compressed anteriorly into a blunt broken edge. The commissure is much indented and broken. This description of the bill applies to the adults of both sexes; but in the male the bill is longer and deeper than in the female. Tr. Z. S. ix. p. 168.

	Longitudo rostr.†	alæ.	caudæ.	
No. 1. ♂, adult	3·75	10·50	10	Island of Guimaras.
No. 2. ♂, ,, ...	3·87	10·25	10	,, ,,
No. 3. ♀, adult	3	9·75	9	,, ,,
No. 4. ♀, ,, ...	3·37	9·75	9	,, ,,

69. * PENELOPIDES MANILLÆ.

Calao de Manille, D'Aubenton, Pl. Enl. 891, ♂ *juv.*

Le Calao de Manille, Buffon, Hist. Nat. vii. p. 144, ♂ *juv.* p. 140, no. 9.

Buceros manillæ, Bodd. Tabl. Pl. Enl. p. 54, ex D'Aubent. (1783).

Buceros manillensis, Gm. S. N. i. p. 361, no. 10, ex Buffon (1788).

Le Calao à bec cizelé, dans son jeune âge, Le Vaillant, Ois. Rares, i. p. 37, pl. 18, ♂ *jun.*

Buceros sulcirostris (*juv. viril.*), Wagler, Syst. Av. p. 201, ex D'Aubenton.

Buceros manillensis, Buffon, Meyen, Nov. Act. Ac. C. L. C. Nat. Cur. xvi. Suppl. prim. p. 91, pl. xiii. ♂ adult.

Buceros manillensis, Linn., v. Kittlitz, Lutké, Voy. (Postels) iii. p. 326, "Manilla."

Buceros panayensis, Scop., Schlegel, Mus. Pays-Bas, *Buceros*, p. 11, nec Scopoli.

Buceros panini, Bodd., v. Martens, J. f. O. 1866, p. 18, nec Bodd.

Hab. Luzon, January and February (*Meyer*).

The adult male (nos. 1, 2) has the back, rump, upper tail-coverts, and wings dull brown, with a bronze-green gloss. The primaries are brown, with a faint ferruginous fringe to the outer webs, the secondaries with a bolder albescent edging. The head, neck, throat, breast, abdomen, vent, thigh-coverts, and under tail-coverts tawny. The throat, cheeks, and ear-coverts black, and marked as in *P. panini*. The crest is more elongated than in that species. The rectrices for the first five inches are bronzed brown, followed by a ferruginous band about one inch deep, and terminated by a black band glossed with green of about two inches. A narrow ferruginous fringe terminates some of the rectrices. In the outer pair, and sometimes in the two outer pairs, the ferruginous band is pale tawny, and does not run through the outer webs.

Tr. Z. S. ix. p. 169. The adult female (no. 3) has the wings, back, and tail as in the male, the rest of the plumage dull brownish mouse-colour. The quills are not fringed as in the male. The bill in this species is built on the same model as that of *P. panini*; but there do not appear to be as many grooves in the maxilla, five being the greatest number apparent.

In a very old male (no. 6), judging by the bill, several new rectrices have come, which have the central band almost white, the colour above and below this band being black glossed with green, and not brown. The remaining old rectrices are as described above. In a very old female example (no. 7) the same peculiarity is to be found. A young male (no. 5) with the casque partially developed, but without lateral plates or grooves, has the rump ferruginous, and the first-plumage rectrices broadly washed with ferruginous at their apex.

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† Measured in a straight line from the nostril to the tip.

Meyen (*l. c.*) most positively stated that this Luçon chiselled-billed *Buceros* did not belong to that of Panay; and he gave an accurate figure of the old male.

	Longitudo				
	rostri.	alæ.	caudæ.		
No. 1. ♂, adult	3·25	9·25	9	Luzon.	
No. 2. ♂, ,, ...	3·12	8·75	8·25	,,	
No. 3. ♀, ,, ...	2·75	8·50	8·25	,,	
No. 4. ♀, juv.	2·25	8	7·50	,,	
No. 5. ♂, ,, ...	2·62	9·12	8·75	Manilla.	
No. 6. ♂, adult	3·1	9·12	8·87	,,	
No. 7. ♀, ,, ...	2·87	8·37	——	,,	(tail not fully grown).

Dr. v. Martens (J. f. O. 1866, p. 18) enumerates as an additional species of Philippine Hornbill an individual observed by him in the Military Library at Manilla. He describes it as being without a casque, and as having the tail long, the head crested, the bill and face black, the nape pale yellowish brown, the back and wings spotted and the under surface yellowish. Dr. v. Martens suggests that it may be *B. gingalensis*, Shaw, and bestows no title. The description above given does not agree with the Ceylon species, and was probably made from an immature example of one of the foregoing species.

LANIIDÆ.

Lanius, Linnæus.

70. * Lanius nasutus.

Pie-grièche d'Antigue, Sonn. Voy. Nouv. Guin. p. 114, pl. 70.

Lanius nasutus, Scopoli, Del. Fl. Faun. Insubr. ii. p. 85, no. 13 (1786), ex Sonn.

Lanius antiguanus, Gm. S. N. i. p. 301, no. 29 (1788), ex Sonn.

Lanius cephalomelas, Bp. Rev. et Mag. Zool. 1853, p. 436, "Manilla;" Walden, Ibis, 1868, p. 70. [*Anteà*, p. 51.]

Hab. Zebu (*Meyer*); Panay (*Sonnerat*).

A single example of a black-headed Shrike, obtained in Zebu by Dr. A. B. Meyer, removes all doubts as to the existence of such a form in the Philippines; and we may further safely assume that it is the same as Sonnerat's species. Tr. Z. S. ix. p. 170.

In India there appear to be two well-marked species of black-headed Shrikes:—one, the largest, with the whole back in the adult bright rufous, inhabiting Nepal, Darjeeling and Assam, and named by Mr. Hodgson *L. tricolor* (Ind. Rev. 1837, p. 446, ex Nepal; Gray & Mitch. Gen. pl. 71); the other, in the adult, with the upper back ashy grey, and the lower pale ferruginous, inhabiting Goomsoor, Bengal, and said to extend into Arracan (*L. nigriceps*, Frank.; Jerd. Ill. Ind. Orn. pl. 17). It is true that Dr. Jerdon, who at one time maintained this view, altered it (*l. c.*) out of deference to Mr. Blyth; but my acquaintance with the two birds bears out Dr. Jerdon's original opinion. Dr. Meyer's Zebu example has the upper back ashy grey, as in *L. nigriceps*, this colour descending much lower than in the Indian form, the uropygium and upper tail-coverts only being ferruginous; nor does the black on the nape extend so low down as in either of the Indian species. The Zebu bird, which is marked a male by Dr. Meyer, does not appear to be fully adult; and without an opportunity of comparing more examples, I am disinclined to assert that it differs specifically from *L. nigriceps*.

	Longitudo			
	alæ.	caudæ.	tarsi.	
L. nasutus	3·50	5	1·25	♂. Zebu, in April.
L. nigriceps	3·37	4·87	1·20	Adult. Rognathpoor, Bengal.
L. tricolor	3·75	5·75	1·25	Adult. Nepal.
,, ...	3·75	5·13	1·25	Adult. Mymensing.
,, ...	3·75	5·12	1·25	Immature. Darjeeling.
,, ...	3·68	4·88	1·25	♂, not quite adult. Base of Garos.

71. Lanius schach.

Lanius a-scack, Osbeck, Ostind. Resa, p. 227, "vicinity of Canton" (1757).

Lanius schach, J. G. Georgi, Osbeck, Reise Ostind. China (German transl.), p. 296 (1765).

Lanius schach, Linn. S. N. i. p. 136, no. 14 (1766), ex Osbeck; J. R. Forster, Osbeck, Voy. China, East Indies (Eng. tr.) i. p. 367; ii. p. 325 (1771); Bp. Consp. i. p. 364.

Lanius macrourus, Cuv. Mus. Paris; Pucheran, Archiv. Mus. vii. p. 324 (1854–55).

Lanius chinensis, J. E. Gray, Zool. Misc. p. 1, "China" (1831).

Prince Bonaparte (*l. c.*) includes the Philippines within the range of this Shrike; and upon his authority (the only one, it is true, I have been able to discover) it is admitted in this list. The Javan and Timor form (*Lanius bentet*, Horsf.,=*Lanius pyrrhonotus*, Vieillot) is considerably smaller, and the black on the forehead recedes more than in the Chinese species. In dimensions it agrees with *Lanius erythronotus*, Vigors, from which species it can only be distinguished by the greater extent of black on the forehead. In fact *L. bentet* is a link between *L. erythronotus* and *L. nigriceps* and the other black-headed forms, *Lanius schach* being a large form of *L. erythronotus*. In an early phase of plumage, but after the otherwise full plumage has been adopted, *L. nigriceps* closely resembles *L. erythronotus*, the crown of the head changing to black *after* the forehead has become black.

Tr. Z. S. ix. p. 171.

72. Lanius lucionensis. (Pl. XXIX. fig. 1, *in orig.*)

La Pie-griesche de Luçon, Briss. Orn. ii. p. 169, no. 11, "Isle de Luçon."

Lanius lucionensis, Linn. S. N. i. p. 135, no. 10 (1766), ex Briss.; Walden, Ibis, 1867, p. 215 †; Salvadori, Atti Ac. Sc. Torino, 1868, p. 273; Swinhoe, P. Z. S. 1871, p. 376.

Lanius jeracopis, De Fil. Mus. Mediol. *Aves*, p. 31 (1847), *fide* Salvad. *l. c.*

Lanius phœnicurus, Pall., O. Finsch, Verh. zool.-bot. Gesellsch. Wien, 1872, p. 258, no. 16, partim.

Hab. Negros, Guimaras, and Zebu in March; Luzon in January (*Meyer*).

Were it not that an ornithologist so distinguished as Dr. O. Finsch had quite recently (*l. c.*) called in question the right of this Philippine Shrike to rank as a distinct species, it would have

† [*Anteà*, p. 40.—Ed.]

been unnecessary to do more than enumerate it in this list. The latest and most valuable contribution to the history of the rufous-tailed Shrikes we owe to Mr. Swinhoe (*l. c.*). That gentleman had collected an unusually large series of individuals, which, together with the knowledge acquired during a long residence in Eastern Asia, entitles his opinion to the greatest weight. Mr. Swinhoe admits as distinct species *L. cristatus*, *L. superciliosus*, Lath., and *L. lucionensis*, L.; and he has given the probable general lines of their separate annual migrations*.

These three species, when in adult plumage, are quite unmistakable; but when immature their specific differences are less striking. Yet Dr. O. Finsch (*l. c.*), after a study of the following meagre and insufficient materials—an adult and a young female example from Java (*L. superciliosus*), a young or female individual from Madras (*L. cristatus*), and a young or female bird captured fifty miles out at sea, off the Luzon coast—has arrived at the conclusion that all three belong to one species, which he terms *L. phœnicurus*, Pall.†. It may therefore not be superfluous to give the characters which distinguish the three species when in full plumage.

L. superciliosus, Lath. (*L. phœnicurus*, Pall. ap. Schrenck; Walden, Ibis, 1867, p. 216. pl. v. fig. 2‡), has the entire upper surface very bright *uniform* rufous, a very broad frontal band, a very broad superciliary stripe, and the throat pure white; the inner webs of the basal parts of the primaries white underneath, which shows through on the upper surface of the quills at their insertion, almost forming a white, yet concealed alar bar; shoulder-edge and under shoulder-coverts pure white.

Tr. Z. S. ix. p. 172.

L. cristatus, L., has the head, nape, rump, upper tail-coverts, and tail rufous, but less bright and browner than in *L. superciliosus*. The back is coloured with the same tint, but paler or less rufous. The chin and upper part of the throat are white; but the tawny hue of the breast extends higher up than in either *L. superciliosus* or in *L. lucionensis*; and all the throat is usually washed with tawny.

The white frontal band is narrow and ill defined; and the white supercilium is much less prominent than in *L. superciliosus*. The quills at their insertions show indications, although slight, of a rudimentary alar bar. The shoulder-edge and under shoulder-coverts are tawny. The female is coloured as the male, but has the subocular stripe brown and not black, and the sides of the breast and flanks more or less striated and freckled with faint brown marks.

L. lucionensis, L., has the forehead and crown delicate pale pearl-grey, no pure white whatever on the forehead. A narrow white supercilium commences above the eye, becoming somewhat broader behind, and shading off into the grey of the head. The occiput, nape, and back are ashy liver-brown. The rump, upper tail-coverts, and tail are washed with rufous, most marked on the upper tail-coverts; the chin and throat pure white, as in *L. superciliosus*; shoulder-edge and under shoulder-coverts pure white; indications of a concealed white alar bar, as in *L. cristatus*; and the female has the sexual distinguishing characters of that species*. The almost entire absence of rufous in the plumage of the adult Philippine species suffices to distinguish it at a glance from *L. cristatus* and *L. superciliosus*.

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* Although my investigations lead me to generally concur with Mr. Swinhoe's remarks on this branch of the question, in one particular Mr. Swinhoe appears to have been misled by Mr. Blyth's statement that *L. lucionensis* occurs in Ceylon. It appears to be now pretty well ascertained that *L. cristatus* only is found in Ceylon, and that the ashy grey plumage, sometimes observable in that species and in *L. superciliosus*, was the origin of the erroneous identification. The occurrence of *L. lucionensis* in the Andamans has been confirmed since it was asserted by Mr. Blyth (Mouat's 'Andamans,' 1863, App. Zool. pp. 352, 360) and by Mr. Ball (J. A. S. B. 1872, p. 280, no. 21); and I have also lately received Andaman examples of this species.

† *L. cristatus*, Linn., is the only species of which I have seen examples from Lake Baikal. More to the eastward in Siberia, *L. superciliosus*, Lath., may perhaps find its northern limit. Mr. Swinhoe (*l. c.*) states that examples from the Amoor, Amoy, and Malacca agree; and I still incline to the belief that *L. phœnicurus*, ap. Schrenk (Reisen Am. i. p. 384), is Latham's bird. The evidence we possess favours the opinion that *L. phœnicurus*, Pall., was described from an example of *L. cristatus*, Linn.

‡ [*Anteà*, p. 41.—Ed.]

I append the wing- and tail-dimensions of a few examples from different localities, from which it will be seen that no certain characters can be deduced from them.

The changes and phases of plumage these three species pass through before arriving at maturity have yet to be investigated; and many hundreds of individuals will have to be compared before any satisfactory result can be expected. In one phase I find that immature examples of *L. superciliosus* and *L. lucionensis* have the entire under surface pure white. Then there is that phase in which the upper surface of *L. cristatus* and of *L. superciliosus* is ashy, dark in the first, light in the other. A Malaccan example of *L. superciliosus* above so closely resembles *L. lucionensis* that there would be great doubt as to its distinctness, were it not that two of the tertiaries were edged with bright rufous; this individual has the whole lower surface pure white.

A Ceylon example, at first sight, seen from above, might easily be mistaken for the Philippine species, were it not for its ruddy rectrices and rufous-tinged forehead and the absence of grey on the head.

Tr. Z. S. ix. p. 173. *Lanius schwaneri*, Bp. (*cf.* Walden, *tom. cit.* p. 223†), is reduced to a synonym of *L. lucionensis* by Mr. Swinhoe (*l. c.*); yet that author (*l. c.*) describes a fourth species, entitling it *L. incertus*, which appears to be only distinguishable from *L. lucionensis* by the characters on which Prince Bonaparte founded *L. schwaneri*.

	Longitudo			
	alæ.	caudæ.		
L. superciliosus	3·50	4·00	♂ adult.	Malacca.
"	3·37	3·75	♂ "	"
"	3·37	3·85	♂ juv.	"
"	3·50	4·12	♂ adult.	Java.
"	3·62	3·87	♂ "	Hakodadi, June.
L. lucionensis	3·37	3·87	♂ "	Zebu, March.
"	3.37	3·87	♂ "	Luzon, January.
"	3·50	3·87	♂ "	Negros, March.
"	3·12	3·50	♂ juv.?	Guimaras, March.
"	3·25	3·62	♀ "	" "
"	3·60	3·87	♂ adult.	Amoy, April 28.
"	3·50	3·50	♀ "	" May.
"	3·37	3·50	♀ "	" "
"	3·50	3·75	♂ "	South Andaman, December 29.

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* I have not met with an authentic example of *L. superciliosus* ♀.

† [*Anteà*, p. 45.—Ed.]

	Longitudo			
	alæ.	caudæ.		
L. cristatus	3·37	3·75	♀ adult.	Lake Baikal.
„	3·37	3·75	♀ „	„ „
„	3·37	3·60	♀ „	Siberia (Lake Baikal?).
„	3·37		♂ „	Malabar.
„	3·37	3·37	♀ vel ♂ juv.	Coorg.
„	3·37	3·87	♀ vel ♂ juv.	Moulmein, October.
„	3·37	3·65	♂ juv. (*fide* Beavan).	Maunbhoom, Dec. 25.
„	3·25	3·50	♀ „ (*fide* Beavan).	Moulmein, Sept.
„	3·37	3·87	♂ „	Barrackpore, Sept. 28.
„	3·13	3·62	♀ „ (*fide* Beavan).	Maunbhoom, Jan.
„	3·37	3·81	♀ adult.	Sassowlie.
„	3·37	3·87	♂ „	Ceylon, December.
„	3·37	3·87	♀ vel ♂ juv.	Ceylon, October.
„	3·37	3·16	♂ adult.	Assam.
„	3·50	3·62	♂ „	Tonghoo.

La Piegrièche rouge de l'isle Panay, Sonnerat, *op. cit.* p. 114, pl. 71;
Lanius ruber, Scopoli, *tom. cit.* no. 14 (1786), ex Sonn.;
Lanius panayensis, Gm.* *tom. cit.* p. 307, no. 41 (1788), ex Sonn.; and
La Piegrièche blanche de l'isle Panay, Sonnerat, *op. cit.* p. 115, pl. 72; Tr. Z. S. ix. p. 174.
Lanius albus, Scopoli, *tom. cit.* p. 85, no. 15 (1786), ex Sonn.;
Lanius albus, Gm., *tom. cit.* p. 307, no. 42 (1788), ex Sonn.,

have never been determined. Bonaparte (Consp. i. p. 364) was unable to suggest an identification; and in the Hand-list Mr. Gray omitted all the titles founded on Sonnerat's two plates. The seventy-first is possibly meant to represent an African or else Madagascar Ploceine form, perhaps a species of *Foudia*; while the species figured in the seventy-second plate, *Lanius albus*, closely corresponds with *Sturnopastor melanopterus* (Daudin).

ARTAMIDÆ.

Artamus, Vieillot.

73. Artamus leucorynus.

Lanius manillensis, Briss. Orn. ii. p. 180, no. 17, "Manilla" (1760).

Lanius leucorynus, Linn., Mantissa Plant. p. 524, "Manilla" (1771), ex Brisson; Walden, Tr. Z. S. viii. p. 67†; Kittlitz, Kupfert. pl. 30. fig. 1.

Lanius philippinus, Scop. Del. Fl. Faun. Insubr. ii. p. 85, no. 12 (1786), ex Sonn.

Hab. Negros, March; Guimaras, March; Luzon, January (*Meyer*).

Sexes (*fide* Meyer) do not differ.

Messrs. Hartlaub and Finsch (P. Z. S. 1868, pp. 116, 117, no. 5) assert that the Philippines, and more especially the island of Luzon, are inhabited by two distinct species of the genus

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* Gmelin erroneously quotes Sonnerat's 70th plate.

† [*Anteà*, p. 168.—Ed.]

Artamus—one, the darker-coloured species, which has hitherto borne the title of *Artamus* (*Loxia*) *melaleucus*, R. Forster (Descr. Anim. p. 272, no. 221, "New Caledonia"); and the other the Javan form, and, as for that, the Indo-Malayan, Papuan, and Australian, *Leptopteryx leucorhynchus* (Linn.), Horsf. (Tr. L. S. xiii. p. 244, "Java"). This assertion is not supplemented by any stated evidence; nor do they profess to have seen Philippine examples of the darker species. The darker bird, *A. melaleucus* (R. Forster), is referred by Messrs. Hartlaub and Finsch to *Lanius manillensis*, Brisson, and Sonnerat's *Piegrièche dominiquaine* and the subsequent titles based on Brisson and Sonnerat's independent, separate, and original descriptions of that Philippine bird; and to it Drs. Hartlaub and Finsch apply the title of *A. leucorhynchus* (Gm.), ex Brisson, but which is really a Linnæan title (*l. c.*).

The oldest title of the paler form they state to be *Artamus leucorhynchus*, Horsf. (nec Gmelin!). The title, not being Horsfield's, cannot be retained, even if Messrs. Hartlaub and Finsch can show that *A. melaleucus* also inhabits the Philippines; and that of *A. leucogaster*, Valenc. Mém. du Mus. vi. p. 27 (1820), would have to be adopted. I have never met with specimens of any other than this latter species from the Philippines; and I have no doubt that from it Brisson and Sonnerat took their descriptions. True *Loxia melaleuca*, R. Forster, ex New Caledonia, only differs from the widely spread *Lanius leucorhynchus*, Linn., in having the entire head almost black instead of ash-grey, by the throat being darker, and also the smoky brown of the back being many shades deeper. The species that is found in the Pelew Islands I have never seen.

Tr. Z. S. ix. p. 175.

CAMPEPHAGIDÆ.

GRAUCALUS, Cuvier.

74. *GRAUCALUS STRIATUS. (Pl. XXX. fig. 1 *in orig.*)

Choucas de la Nouvelle Guinée, D'Aubent. Pl. Enl. 629, ♀ vel ♂ juv.

De Choucas de la Nouvelle Guinée †, Montbeillard, Hist. Nat. Ois. iii. p. 80 (1775).

Corvus striatus, Bodd. Tabl. Pl. Enl. p. 38, ex D'Aubent. (1783).

Corvus novæ-Guineæ, Gm. S. N. i. p. 371, no. 28 (1788), ex Montbeillard; Lath. Ind. Orn. i. p. 156, no. 14.

Coracina fasciata, Vieill. ‡ Nouv. Dict. viii. p. 8 (1817), ex D'Aubent.

Ceblepyris plumbea, Wagler, Syst. Av. *Corvus*, p. 322 (1827), ex Gm.

Graucalus dussumieri, Lesson §, Tr. d'Orn. p. 349, ♀ vel ♂ juv., "Manilla" ‖ (1831); Jacquin. & Pucheran, Voy. au Pôle Sud, Zool. iii. p. 65, pl. 8. fig. 1, ♀, *fide* Pucher., "Samboangan, island of Mindanao;" Pucheran, Archives du Mus. vii. p. 363.

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† Montbeillard leaves it to be inferred that this title (involving, as it does, the origin of the type) was bestowed by D'Aubenton.

‡ This author pretends also to describe the female and the young male; but it is impossible to determine what species he describes from.

§ This title and the accompanying references are omitted in Dr. Hartlaub's 'Monograph' (J. f. O. 1864, p. 444); nor is it included in his valuable index to Pucheran's papers on the types in the Paris Museum (*op. cit.* 1855). Correctly enough, however, only one species of the true *Graucalus* is enumerated by Dr. Hartlaub from the Philippines.

‖ Dr. Pucheran also states that Lesson's type came from Luzon.

Graucalus lagunensis, Bp. Compt. Rend. vol. xxxviii. p. 540, ♂ adult, "Ins. Philipp." (March 20, 1854); Notes Orn. Coll. Delattre, p. 77; Hartl. J. f. O. 1864, p. 445, ♂, ♀, "Philippines."

Graucalus dussumieri, Lesson, Blyth, J. A. S. B. 1861, p. 96; Gray, Hand-list, no. 5070.

Graucalus lagunensis, Bp., Blyth, *l. c.*; Gray, *op. cit.* no. 5080.

Corvus papuensis, apud v. Kittlitz, Lütke, Voy. (Postels) iii. p. 326, nec Gm.

Hab. Luzon, January, April; Negros, March (*Meyer*); Mindanao (*Jacquinot*).

Dr. Meyer obtained six examples of this handsome *Graucalus*, representing three distinct phases of plumage. Two have, with the exception of the upper tail-coverts and lower feathers on the rump, the whole plumage of a dark plumbeous grey, the lores being jet-black. The lower plumage is somewhat paler than the upper, more especially that of the ventral region. A few of the upper tail-coverts and rump-feathers are fringed with pale grey. This is the fully adult male plumage * (*G. lagunensis*, Bp.).

Tr. Z. S. ix. p. 176.

A third example has the head, neck, back, and breast dark plumbeous grey; but the rest of the under plumage, with the under tail-coverts and the rump and upper tail-coverts, has two or more broad, almost pure white, transverse bands on each feather. The black lores are faintly indicated by a darker shade of plumbeous. This is the phase described by Lesson (*l. c.*), and represented in the eighth plate of the 'Voyage de l'Astrolabe.' It is also the phase figured by D'Aubenton, only that in the 'Planches Enluminées' the lores are exhibited as black. Two other examples differ:—one in the black and white feathers extending higher up on the breast, and being more numerous on the rump; the other in their becoming less distinct—that is, passing into the fully adult phase.

The Negros example (♂ *fide* Meyer) has the whole of the under plumage, from the chin, barred transversely white and black; and the black and white feathers on the uropygium extend to the middle of the back. This individual, I believe, represents the youngest of the three phases of plumage. It has not hitherto been described or figured. The dimensions of all six examples nearly agree.

D'Aubenton's plate, no. 629, first made this species known to science. The individual there figured was brought to Paris by Sonnerat (*teste* Montb. *tom. cit.* p. 82). With it Sonnerat also brought the individual represented by D'Aubenton on plate 630, and on which Gmelin founded his *Corvus papuensis*. Unfortunately Montbeillard did not state the localities where Sonnerat procured either of the two species. The one, however, figured on the 630th plate is undoubtedly an exclusively Papuan form; and being so, we can with much certainty infer that it was obtained by Sonnerat from some part of the Papuan subregion during his only visit to the Papuan Islands, namely in the year 1772. The expedition which Sonnerat accompanied when he visited those islands, and which had left the Isle of France on the 29th of June, 1771, had previously, from the beginning of September 1771 to the beginning of February 1772, explored the Philippine Islands; and Sonnerat seems to have never again travelled in the Philippine archipelago. He returned to France in 1772; and D'Aubenton's plates were published prior to 1775 [*]. After this date Sonnerat returned to the East and visited India, Malacca, and China. The subject of Pl. Enl. 629 was therefore procured during Sonnerat's first voyage, either along with that of Pl. Enl. 630 (*C. papuensis*, Gm.) in the Papuan Islands, or else previously in one of the Philippines. No known Papuan *Graucalus* agrees with the bird figured in plate 629; but the female or young male of the common Philippine species does completely agree with it. I therefore without hesitation identify *Le Choucas de la Nouvelle Guinée*, D'Aubent., pl. 629, with the Philippine Cuckoo-Shrike. Leaving out *G. swainsonii*, Gould, it being an Australian member of the genus, the only other species that may have supplied Sonnerat with his example are the Malaccan, Sumatran, and Bornean forms (*G. fasciatus*, Vieill., apud auct. recent.,=*C. sumatrensis* [†], S. Müller), and *Graucalus dobsoni*, Ball, J. A. S. B. xli. p. 281, no. 23, an excellent species, belonging to this group and recently discovered by Mr. Ball in the Andaman Islands. But there is no evidence that Sonnerat obtained any birds from the Malayan peninsula, the Andamans, Sumatra, or Borneo during his voyage from Port St. Louis to Manilla; and on the other hand we have the fact that D'Aubenton's plate 629 represents a *Graucalus* with a black lorum and ocular stripe—a character possessed by the Philippine species in some phases of plumage, and the constant absence of which is said to be (and is, I believe) a principal distinguishing character of the Malayan [‡]. Tr. Z. S. ix p. 177.

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* It may also be that of the adult female, it being an unascertained fact whether in both sexes of the large Cuckoo-Shrikes the adult plumage is the same. One of the two above described is labelled by Dr. Meyer "a male," and the other "a female;" but I am not quite sure that implicit confidence can be placed in the sexual determinations indicated on Dr. Meyer's labels.

Two examples of this Philippine *Graucalus* are contained in the British Museum. Both are in the plumage of *G. dussumieri*; yet they are catalogued under two different numbers and two distinct titles in the Hand-list. One, from Mindanao, through the brothers Verreaux, is named by them *G. lagunensis*; the other, from the Cuming collection, procured at Cataguan, is named *G. dussumieri*.

A species usually associated with the subject of Pl. Enl. 629, is the so-called *Graucalus lineatus*, Lesson, Tr. d'Orn. p. 349. The error has probably arisen in consequence of Lesson (*l. c.*) not quoting the real author of the title, and his giving *Corvus novæ-guineæ*, Gm., as a synonym, and adding Pl. Enl. 629 as a reference. The bird described by Lesson (*l. c.*) under this title is said by him to be from New Holland. It is clearly not the Malayan *G. concretus*, Hartl., nor the Philippine species; and it is difficult to identify; for, among other characters given, is a *white tail*. In the Manuel d'Orn. i. p. 220, Lesson included a *Ceblepyris lineata*, Swainson, and a *Ceblepyris tricolor* [§], Swainson, introducing the two titles with the observation that "Mr. Swainson describes two new *échenilleurs*, which he names," etc. The diagnosis given in the 'Manuel' differs from that given in the 'Traité,' but is evidently a condensed account of the Australian *Graucalus* (*Ceblepyris*) *lineatus*, Swains.[†] Zool. Journal, i. p. 466, New Holland (1825)=*Graucalus swainsonii*, Gould[‡], Synop. Birds Austral. pt. iv. pl. —. fig. 2, "east coast of New South Wales."

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[*] I am unable to affix the exact publishing-date of Pl. Enl. 629 & 630; but as these plates are quoted by Montbeillard in the third volume of the first edition of the 'Histoire Naturelle,' which is dated 1775, the examples brought to Paris by Sonnerat must have been obtained during his first voyage (that is, his voyage to the Philippines and New Guinea), and not during his second voyage, when he visited Malacca at some period subsequent to 1776, the year when he left Europe for the second time.

[†] *G. concretus*, Hartl. apud nos, Ibis, 1872, p. 371 [*anteà*, p. 225].

[‡] The Malayan species is considerably smaller, average length of the wing being 5·50, as against 6·25. It is not of so dark a shade of plumbeous, and the transverse bands are narrower. It is not so well marked and striking as the Philippine species. The Andaman species is larger than the Philippine and possesses a characteristic plumage of its own.

[§] Apparently=*C. humeralis*, Gould, P. Z. S. 1837, p. 143, over which title it takes precedence.

Mr. Blyth (J. A. S. B. 1861, p. 96) refers to, and partially describes, a species of *Volvocivora* that was among some Philippine birds sent to him by Mr. Swinhoe to examine. I am unable to identify it; and Mr. Blyth bestowed no title. Tr. Z. S. ix. p. 178.

VOLVOCIVORA, Hodgson.

75. * VOLVOCIVORA (?) CÆRULESCENS. (Pl. XXX. fig. 2, *in orig.*)

Ceblepyris cærulescens, Blyth, J. A. S. B. 1842, p. 463, ♀ vel ♂ juv., "Luçonia;" *op. cit.* 1846, p. 307; Hartlaub, J. f. O. 1865, p. 157, ♂ ad.

Hab. Luzon, January (*Meyer*).

Dr. Meyer procured one example only of this anomalous form. It is in full black plumage, and labelled a male. I am uncertain under which *Graucaline* genus to class this species. Mr. Blyth (*l. c.*) has remarked that it "might be regarded as the type of a new division."

That gentleman (Ibis, 1866, p. 368) has stated that his type is the female of *C. aterrima.* I have failed to discover the name of the author of this title, and Mr. Blyth is unable to inform me who bestowed it.

LALAGE, Boie.

76. LALAGE DOMINICA.

Le Merle des Indes, Brisson, Orn. ii. p. 248, no. 19, "Indes orientales."
Le Terat-Boulau, Montb. H. Nat. Ois. iii. p. 397, ex Briss.
Merle des Indes orientales, D'Aubenton, Pl. Enl. 273. f. 2.
Turdus dominicus, L. S. Müller, Suppl. p. 145, no. 56 (1776), ex Pl. Enl. 273. f. 2.
Turdus terat, Bodd. Tabl. p. 17 (1783), ex Pl. Enl. 273. f. 2.
Turdus orientalis, Gm. S. N. i. p. 821, no. 71 (1788), ex Brisson.
Lalage terat (Bodd.), O. Finsch, Centr.-Polyn. p. 80.

Hab. Zebu, Guimaras (*Meyer*).

Not distinguishable from Javan, Malaccan, and North-Bornean examples, but with a somewhat larger wing. On L. S. Müller's title *conf.* Cassin, Pr. Ac. Nat. Sc. Philad. 1864, p. 251.

PSEUDOLALAGE, Blyth.

77. * PSEUDOLALAGE MELANOLEUCA. (Pl. XXIX. fig. 2, *in orig.*)

Pseudolalage melanoleuca, Blyth, J. A. S. B. 1861, p. 97, "Philippine Islands;" Hartlaub, J. f. O. 1865, p. 163; v. Martens, J. f. O. 1866, p. 12, no. 44.

[†] Dr. Rüppell (Mus. Senckenb. iii. p. 30), having failed to find the reference to Swainson, is hard upon Lesson for the meagreness of his diagnosis.

[‡] This species must retain its original title of *G. lineatus*, Sw. Mr. Gould (*l. c.*) states that he altered it to *G. swainsonii* because the name *lineatus* had been previously given to another species of this group. But the "other species" was this very bird.

Pseudolalage melanictera, Blyth, Sclater (*lapsu calami*), Ibis, 1862, p. 78; Gray, Hand-list, no. 5129.

? *Lalage uropygialis*, Bp. Compt. Rend. xxxviii. p. 541, "*Patr. incert.*" (1854); Coll. Delattre, p. 78.

Hab. Luzon (*v. Martens*).

Feathers of the uropygium spinous; otherwise a true *Lalage*. The diagnosis of *L. uropygialis*, Bp., applies well to this species; but the spinous character of the uropygial feathers is not mentioned. On the stand of the specimen in the British Museum Bonaparte's title is inscribed, Tr. Z. S. ix. p. 179. although that name is altogether ignored in the 'Hand-list,' where, instead, the misprint in the 'Ibis' (*l. c.*) is adopted, and Mr. Blyth's original title attributed to Hartlaub.

PACHYCEPHALIDÆ.

HYLOTERPE †, Cabanis.

78. *HYLOTERPE PHILIPPINENSIS. (Pl. XXXI. fig. 2, *in orig.*)

Hyloterpe philippinensis, Walden, Ann. & Mag. Nat. Hist. ser. 4. vol. x. p. 252, "Luzon" (October 1, 1872).

Hab. Luzon (*Meyer*).

Dr. Meyer's researches in the Philippines have added an additional member of a genus hitherto not known to be there represented. The small group of Pachycephaline birds to which the title of *Hyloterpe* is restricted, is now known to contain six species. They are entitled to subgeneric distinction. The sexes are, I believe, alike; and they possess this further peculiarity, that they wear, in adult plumage, a sombre garb recalling the adolescent and the female plumage of the true black-and-yellow *Pachycephalæ*. This Philippine species is a representative form of *H. sulphuriventris*, Walden, ex Celebes. Above, it differs by its plumage being olive-green, and not brown, and underneath by the yellow extending higher, and being much brighter. The bill is likewise more powerful. Seen from above, *H. philippinensis* is difficult to distinguish from *H. fulvotincta*, Wallace, ex Flores; while, in the same way, *H. sulphuriventris* closely resembles *H. griseiceps* ex N. Guinea. Seen from below, however, the affinities are reversed, the Flores *Hyloterpe* showing a great resemblance to that of Timor, *H. orpheus* (Jard.), and the Celebean and Philippine species but differing slightly.

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† Wiegm. Archiv f. Naturg. 1847, i. p. 321, type *Hylocharis philomela*, S. Müller. Boie (Isis, 1831, p. 546) gave the title of *Hylocharis* to a section of the *Trochilidæ*. But Mr. G. R. Gray, besides adopting the title (Hand-list, i. p. 148) for a genus of that family, employs it again (*tom. cit.* p. 389) for the Pachycephaline genus named by Dr. Cabanis *Hyloterpe*, and attributes it also to Boie, with the date 1827. Dr. Cabanis (*l. c.*), on the other hand, refers the Pachycephaline genus *Hylocharis* to S. Müller, of which he states *Hylocharis philomela*, S. Müller, to be the type; and he changed the generic title, as that of *Hylocharis* was preoccupied. S. Müller published that title, without giving any characters, in his papers on his zoological discoveries in the Sunda Islands (Tijdschr. Nat. Geschied. en Physiol. ii. p. 331, 1835); but he called the species *Hylocharis luscinia*, and the title *H. philomela* is not given by him. It is probable that the two titles refer to the same species, which is the *Tephrodornis grisola*, Blyth, J. A. S. B. 1843, p. 180 *, and is described *op. cit.* 1842, p. 799. If Mr. G. R. Gray is right, and it can be shown that *Hylocharis*, Boie, 1825, was founded on the *Hylocharis luscinia* or *philomela* of S. Müller, the generic title *Hyloterpe* will have to fall.

PERICROCOTIDÆ.

Pericrocotus, Boie.

79. Pericrocotus cinereus.

Pericrocotus cinereus, La Fresnaye, Rev. Zool. 1845, p. 94, "Luçon;" Gould, Birds of Asia, pt. ix.; Swinhoe, P. Z. S. 1871, p. 378, no. 315; Schrenck, Amurl. i. p. 381; Radde, Ost-Siberien, ii. p. 273.

Pericrocotus modestus, Strickl. P. Z. S. 1846, p. 102, "Malacca;" Ann. & Mag. Nat. Hist. xix. p. 131.

Ceblepyris luctuosus, De Fil. Cat. Mus. Mediol. p. 31, "Philippines" (March, 1847); Salvad. Atti Acad. Scienze, Torino, 1868, p. 271.

Tr. Z. S. ix. p. 180.

Phœnicornis modesta, Boie, Bp. Consp. i. p. 357, "Sumatra" (1850).

Pericrocotus motacilloides, Swinhoe, Ibis, 1860, p. 58, "Amoy, in spring."

Hab. Philippines (*La Fresnaye, Gould*).

Probably only a winter resident.

DICRURIDÆ.

Dicrurus, Vieillot.

80. *Dicrurus balicassius. (Pl. XXXI. fig. 1, *in orig.*)

Monedula philippensis, Brisson, Ornith. ii. p. 31, no. 9, pl. 2. fig. 1, "Philippines."

Corvus balicassius, Linn. S. N. i. p. 157, no. 11 (1776), ex Brisson.

Le Choucas des Philippines, D'Aubent. Pl. Enl. 603.

Le Balicasse des Philippines, Montbeillard, Hist. Nat. iii. p. 83, ex Brisson.

Edolius furcatus, Wagler, Syst. Av. p. 322 (1827), ex Linn.

Edolius viridescens, Gould, P. Z. S. 1836, p. 6, "Manilla;" Blyth, J. A. S. B. xi. pp. 173, 802, figs. 10, 11; Cat. Calc. Mus. no. 1217, pp. 202 & xxii.

Balicassius philippensis, Bp. Compt. Rend. xxxviii. p. 539, "Philippines" (1854); Coll. Delattre, p. 76.

Balicassius furcatus, Bp., ex Gm. *l. c.* nec Gm.

Hab. Luzon, January and February (*Meyer*).

Sexes, as determined by Dr. Meyer, do not differ.

Accurately described in 1760 by Brisson, with its habitat correctly stated, this fine species remained unrecognized until a few years ago. It seems to be confined to the island of Luzon, being represented in Negros by the following species. It is the first species mentioned by Vieillot (Analyse, p. 41, no. 125, 1817) under his genus *Dicrurus*, and therefore may conveniently be regarded as the type, and Bonaparte's generic title *Balicassius*† must fall. *E. viridescens*, Gould, was described from a Philippine example now in Mr. Eyton's collection, and which I have examined. Wagler bestowed as a new title that of *furcatus* on *Corvus balicassius*, Linn., as seems to have been his habit when he altered the genus. The fact that true *D. balicassius* is a purely Philippine bird was not fully appreciated by my lamented friend the late Dr. Jerdon; for (Ibis, 1872, p. 119) he alludes to the Himalayan *Dicrurus* as being "distinct from the Malayan species to which the name of *balicassius* was applied." The Malayan species here referred to is *Edolius affinis*, Blyth (J. A. S. B. 1842, p. 174, "Malay peninsula"), and which, after comparison, I am unable to separate from the Himalayan *D. annectens*, Hodgs. (Ind. Rev. 1837, p. 326, "Nipaul"),=*D. balicassius* (Linn.), *apud* Jerd., Blyth, Horsf. and Moore, etc., nec Linn. Tr. Z. S. ix. p. 181.

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† Adopted by Fitzinger (Fam. der Vögel, p. 198).

The following titles have been regarded by some authors as belonging to the Luzon species, although they have nothing to do with it:—

Corvus afer, Lichtenst. M. A. A. H. Lichtenstein, in the Hamburg Catalogue[†], p. 10, no. 99, identified with doubt what can only be the South-African *Dicrurus musicus* with *Corvus afer*, Linn. (*l. c.* no. 12), founded on *Pica senegalensis*, Briss. (*tom. cit.* p. 40, no. 2). Lichtenstein did not create the title. Brisson's bird is doubtless a Senegal *Sturnine* form, and was sent to Réaumur by Adanson.

Corvus adsimilis, Bechstein, Latham's allgemeine Uebersicht der Vögel, ii. p. 562, no. 47 (1791), ex M. A. A. H. Lichtenstein; Kurze Uebersicht, p. 117, no. 44. A title given by Bechstein to *Corvus afer*, Linn. apud Lichtenstein *l. c.*, and which therefore becomes the senior title for *Dicrurus musicus*, Vieillot.

Oriolus furcatus, Gm. S. N. i. p. 395, no. 52. A title given to the *Icterus cauda bifida*, Brisson, Orn. ii. p. 105, no. 16, which in its turn was founded originally on the *Turdus niger mexicanus*, Seba, Thesaurus, i. p. 102, pl. 65. fig. 4. Clearly a *Dicrurus* (*Buchanga*), said by Wagler (Syst. Av. p. 364) to be *Dicrurus cærulescens* (Linn.), but which, from the crissum *only* being described as white, I believe to be *Dicrurus leucopygialis*, Blyth.

81. *DICRURUS MIRABILIS.

Dicrurus mirabilis, Walden & Layard, Ibis, 1872, p. 103, pl. 5, "Negros." [*Anteà*, p. 120.]

Hab. Negros (*L. C. Layard*, *Meyer*).

Only differs from *D. balicassius* in having the lower breast, abdominal regions, flanks, and under tail-coverts white instead of black. Dr. Meyer procured several examples in Negros.

In the 'Birds of India' (i. p. 438) it is stated, on Mr. Blyth's authority, that *Edolius rangoonensis*, Gould (P. Z. S. 1836, p. 5; and Jard. Illustr. pl. xxxviii.), is a Philippine, and not a Burmese species. It is not impossible that the genus *Dissemurus* is represented in the Philippines; but *E. rangoonensis*, Gould, although apparently unknown in Burma, seems to have been founded on an example of the Malaccan crestless *Dissemurus*.

[†] *Catalogus rerum naturalium rarissimarum Hamburgi*, d. xxi. October, 1793. An auction catalogue of zoological specimens sold at Hamburg on the above date and following days, and drawn up by M. A. A. H. Lichtenstein, Rector of the Johannis School. Many species are described and new titles bestowed. The work is rare, the only copy known to me being contained in the Library of the University of Kiel.

MUSCICAPIDÆ.

Tr. Z. S. ix. p. 182.

Philentoma, Eyton.

82. *Philentoma cyaniceps. (Pl. XXXII. fig. 1, *in orig.*)

Muscipeta cyaniceps, Cassin, Pr. Ac. Philad. vii. p. 438, "Philippine Islands" (1855); Un. St. Expl. Exped. Zool. p. 145, pl. ix. fig. 1.

Rhipidura caniceps, Cassin, ap. G. R. Gray (*lapsu calami*), Hand-list, no. 4966.

Hab. Luzon, January (*Meyer*).

A small representative form of *Philentoma pyrrhopterum* (Temm.).

Leucocerca, Swainson.

83. *Leucocerca nigritorquis.

Rhipidura nigritorquis, Vigors, P. Z. S. 1831, p. 97, "neighbourhood of Manilla."

Muscicapa bambusæ, Kittlitz, Kupf. p. 7, pl. 9. f. 2, "Luzon" (1832); Mém. présentés à l'Ac. St. Pétersb. ii. p. 5, pl. 6, "Luzon" (1833).

? *Leucocerca javanica*, ap. Blyth, Ibis, 1865, p. 30.

Hab. Luzon, Zebu; bill, feet, and claws black; sexes alike (*Meyer*).

L. javanica may also inhabit the Philippines; but before including it in their fauna it will be better to wait for further evidence.

Cyornis, Blyth.

84. Cyornis banyumas†.

Muscicapa banyumas, Horsf. Tr. Linn. Soc. xiii. p. 146, "Java" (1820); Walden, Tr. Zool. Soc. viii. p. 117 [*anteà*, p. 214]; v. Martens, J. f. O. 1866, p. 11, no. 32, "Luzon."

Hab. Zebu, April (*Meyer*); Luzon (*Jagor*).

The only individual obtained by Dr. Meyer appears to differ from Javan examples by being of a much darker shade of blue, and by wanting the pale bright blue frontal and superciliary plumes. The bill also is considerably longer and stouter.

Hypothymis, Boie.

85. Hypothymis azurea.

Gobemouches bleu des Philippines, D'Aubent. Pl. Enl. 666. fig. 1.

Le petit Azur, Montb. Hist. Nat. Ois. iv. p. 534.

Muscicapa azurea, Bodd. Tabl. Pl. Enl. p. 41 (1783), ex D'Aubent.; Walden & Layard, Ibis, 1872, p. 102, "Negros." [*Anteà*, p. 120.]

Muscicapa cœrulea, Gm. S. N. i. p. 943, no. 64 (1788), ex Montb.; Kittlitz, Kupfert. p. 7, pl. 9. fig. 1; v. Martens, J. f. O. 1866, p. 11, no. 38.

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† [The species here referred to is *C. philippinensis*, Sharpe, Trans. Linn. Soc. ser. 2, vol. i. Zoology (1877); but *C. banyumas*, Horsf., has since been obtained by Mr. Everett in the island of Palawan, *vide* Tweeddale, P. Z. S. 1878, p. 615.—Ed.]

L'Azur à calotte et à collier noir, Le Vaillant, Ois. d'Afr. iv. p. 11, pl. 153. figs. 1, 2.

Tr. Z. S. ix. p. 183. *Muscicapa occipitalis*, Vigors, P. Z. S. 1831, p. 97, "neighbourhood of Manilla;" v. Martens, *tom. cit.* no. 31.

Muscicapa cæruleocephala, Sykes, P. Z. S. 1832, p. 85, no. 43, ♀, "Deccan;" J. A. S. B. 1834, p. 423.

? *Myiagra torquata*, Swains.† Nat. Libr. Flycatchers, p. 208 (*fide* G. R. Gray, Hand-list, no. 4930).

Muscicapa manadensis, Quoy et Gaim. ap. Bp. Consp. i. p. 321, *nec* Quoy et Gaim.

Hab. Guimaras, March (*Meyer*); Negros (*L. C. Layard*); Luzon (*Vigors*).

The proportion of blue, of bluish grey, and of pure white varies considerably among individuals (males) from the same locality. In some the lower breast and the whole abdominal region is pure white. In the others the entire breast and the abdomen is bluish grey. Again, the presence of the black nuchal patch and black gorget is not constant. In a Malabar male, in apparently otherwise full plumage, the black gorget is absent. A Ceylon male in brilliant azure plumage wants both the black nuchal patch and the gorget. A second specimen from that island also wants these characters. If constant in the Ceylon *Hypothymis*, this form will deserve specific separation. Examples from Maunbhoom, Garo Hills, Tonghoo, Moulmein, Malacca, Java, Flores, Banjermassing, and the island of Negros perfectly agree with the only individual obtained by Dr. Meyer.

BUTALIS, Boie.

86. * BUTALIS MANILLENSIS.

Butalis manillensis, Bp. Compt. Rend. xxxviii. p. 652, "Manilla" (1854); Coll. Delattre, p. 80.

Hab. Manilla (*Bonaparte*).

The short notice given of this species makes it difficult to identify. It is stated to be of small size as compared with *B. grisola*, and may prove to be *Butalis latirostris* (Raffles, Tr. Linn. Soc. xiii. p. 312), or else *Butalis griseosticta* (Swinh., Ibis, 1861, p. 330), both these migratory forms occurring in the Malay archipelago during the winter months.

ZEOCEPHUS, Bonaparte.

87. * ZEOCEPHUS RUFUS.

Tchitrea rufa, G. R. Gray, Ann. & Mag. Nat. Hist. xi. p. 371, "Philippine Islands" (1843); Gray & Mitch. Genera of Birds, pl. 64.

Zeocephus rufa (G. R. Gray), Bp. Comptes Rend. xxxviii. p. 652 (1854); Coll. Delattre, p. 80; Cassin, Un. St. Expl. Exp. Zool. p. 144.

Hab. Philippines.

The precise localities in the Philippines inhabited by this Flycatcher are not known.

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† Treated as a distinct species by Bonaparte (Consp. p. 321), and united by Mr. G. R. Gray with the Philippine species. I have failed to find Swainson's description. He merely refers to it (*l. c.*) as a recognized species additional to *H. azurea*.

The following *Muscicapine* forms attributed to the Philippines have not been rediscovered in those islands :— Tr. Z. S. ix. p. 184.

Le Gobe-mouche à tête bleuâtre de l'isle de Luçon, Sonnerat, Voy. Nouv. Guin. p. 57, pl. 26. no. 1.

Muscicapa cæruleocephala, Scop. Del. Fl. Faun. Insubr. p. 95, no. 106 (1786), ex Sonn.

Musicapa cyanocephala, Gm. S. N. i. p. 943, no 65 (1788), ex Sonn.; v. Martens, J. f. O. 1866, p. 11, no. 35.

Not since recognized.

Le Gobe-mouche à gorge jaune de l'isle de Luçon †, Sonn. *tom. cit.* p. 57, pl. 26. f. 2.

Muscicapa manillensis, Gm. *tom. cit.* p. 943, no. 66 (1788), ex Sonn.

Judged by the description, a well-marked species; I am, however, quite unable to identify it.

Le Gobe-mouche à tête bleue de l'isle de Lucon ‡, Sonnerat, *tom. cit.* p. 58, pl. 27. f. 1.

Muscicapa macroura, Scopoli, *tom. cit.* p. 95, no. 107 (1786), ex Sonn.

Not since recognized.

Gobe-mouche noir de l'isle de Luçon, Sonn. *tom. cit.* p. 59, pl. 27. f. 2.

Muscicapa tessacourbe, Scopoli, *tom. cit.* p. 95, no. 108 (1786), ex Sonn.

Muscicapa luzoniensis, Gm. *tom. cit.* p. 942, no. 62 (1788), ex Sonn.

Stated by Sonnerat to occur in Madagascar, where it is called by the natives *tessacourbé*, as well as in the Philippines. It has not been recognized in the Philippines since Sonnerat wrote, and it is in all probability a purely Madagascar form, namely *Turdus albospecularis*, Eyd. & Gerv. (Guérin, Mag. Zool. Ois. pls. 64, 65, "Madagascar," 1836; Voy. Favorite, Zool. p. 35, pls. 12, 13).

Buffon (Hist. Nat. iv. p. 565), under the title of *Le Moucherolle des Philippines*, described an apparently *Muscicapine* bird, which I am unable to identify. On it Gmelin based his *Muscicapa philippinensis* (S. N. i. p. 943, no. 63); v. Martens, J. für O. 1866, p. 11, no. 34.

HIRUNDINIDÆ.

HIRUNDO, Linnæus.

88. HIRUNDO GUTTURALIS.

L'Hirondelle d'Antigue, Sonn. Voy. Nouv. Guin. p. 118, pl. 76.

Hirundo gutturalis, Scopoli, Del. Fl. Faun. Insubr. ii. p. 96, no. 115 (1786), ex Sonn.; Swinhoe, P. Z. S. 1871, p. 346, no. 66; Walden, Tr. Zool. Soc. viii. p. 65, no. 76. [*Anteà*, p. 167.]

Hirundo panayana, Gm. S. N. i. p. 1018 (1788), ex Sonn.

Hab. Island of Panay (*Sonnerat*).

CECROPIS, Boie.

89. CECROPIS DAURICA. Tr. Z. S. ix. p. 185.

Hirundo daurica, Linn. Mantissa Plant. p. 528 (1771), ex Laxmann §; Brandt, Ann. & Mag. Nat. Hist. xi. p. 114.

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† Omitted by Scopoli.

‡ Omitted by both Gmelin and Latham.

§ I have not been able to consult Laxmann (Act. Holm. 1769, xxx. pl. 7. fig. 1); but it may be that he first bestowed the title of *daurica*, which Linnæus adopted. [*Hirundo daurica*, Laxmann, Kongl. Vetensk. Acad. Handl. (Holmiæ) 1769, vol. xxx. pp. 209–213, pl. 7. fig. 1.—ED.]

Hirundo alpestris, Pallas, Reisen Russischen Reichs, ii. p. 709, no. 19, "Altai and Siberian Alps" (1773); Zoogr. Rosso-Asiatica, i. p. 534, pl. xxx.; Kittlitz, Lütke, Voy. (Postels) iii. p. 327.

Hab. Manilla (*Kittlitz*).

Brandt (*l. c.*) thus identified a Swallow brought from Manilla by Kittlitz. It probably belongs to the race designated *Hirundo striolata*, Temm., ex Java, in the 'Fauna Japonica,' and which is said to frequent the islands of the Malay archipelago (*cf.* Swinh. P. Z. S. 1871, p. 346).

Dr. v. Martens mentions having observed a Swallow with the uropygium of a pale isabelline colour†, very common about and in the houses of Baños. With doubt he identified it with *H. daurica* (Preus. Exp. O.-Asien, Zool. i. p. 188).

ORIOLIDÆ.

Broderipus, Bonaparte.

90. * Broderipus acrorhynchus.

Oriolus acrorhynchus, Vigors, P. Z. S. 1831, p. 97, "neighbourhood of Manilla;" Gray & Mitch. Gen. Birds, pl. 58; Walden & Layard, Ibis, 1872, p. 101‡.

Hab. Zebu, Negros, Guimaras, Luzon. Bill pink, rose-coloured; feet and claws blue-grey; Luzon examples (*Meyer*).

A large series of individuals obtained by Dr. Meyer illustrates the varying relative proportion of yellow and black on the head in different examples of this fine Oriole. In a Luzon female, immature, middle rectrices tinged with green, the enclosed yellow frontal space extends back fully for $\frac{7}{8}$ of an inch from the base of the culmen. In a perfectly adult Guimaras male with jet-black middle rectrices and quills, and rich orange-golden dorsal plumage, the forehead only is yellow, that colour occupying a depth of only $\frac{3}{8}$ of an inch. This example, in the distribution and proportions of its black and yellow plumage, is almost absolutely identical with a Sula-Island specimen of *B. frontalis* (Wallace). The Sula example, however, has the middle pair of rectrices entirely black, whereas all the Philippine examples have those feathers more or less tipped with yellow. Moreover the Philippine is a much larger bird, with a longer wing and bill. The extent of yellow at the termination of the middle pair of rectrices varies very considerably. In
Tr. Z. S. ix. p. 186. a Negros male in full golden-orange plumage the tips of the middle pair are but barely fringed with yellow. In a Luzon male in similar dress the two middle rectrices have a yellow terminal band nearly half an inch in depth.

The tendency in this species seems to be for the entire head to become black as in *O. melanocephalus* and its allies. In an immature Luzon male (*fide* Meyer), with dingy greenish-yellow plumage and streaked breast, the feathers of the nape, occiput, and lores are dingy greenish yellow with greenish black, those of the forehead being dingy golden. Now in the adult these nuchal, occipital, and loral feathers become jet-black at their tips, those on the neck being ashy or greenish ashy at their roots, but those on the occiput being bright yellow at their insertions. The direction of variation in this species may therefore be said to be towards

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† In the later List (J. f. O. 1866) this colour is described as being isabelline yellow.

‡ [*Anted*, p. 119.—Ed.]

O. melanocephalus, and from *O. galbula*; or, in other words, *O. galbula* is the older species, *B. acrorhynchus* and its allies being subsequent forms, and *O. melanocephalus* and its allies the most recent †. A third species, allied to *B. acrorhynchus* and *B. frontalis*, exists in *Oriolus formosus*, Cabanis, J. f. O. 1872, p. 392, "Island of Siou," the largest of all known Orioles.

ORIOLUS, Linnæus.

91. * ORIOLUS PHILIPPENSIS.

Oriolus philippensis, J. E. Gray, Zool. Misc. p. 3, "Philippine Islands" (1831); Bp. Consp. i. p. 346.

Stated by its describer to have been discovered by Captain Hay in the Philippine Islands. It is not represented in the British Museum, and does not appear to have been again obtained. The type specimen was without feet or wings, and was procured from the natives. Its origin might be considered more than doubtful, were it not that it was procured along with an undoubted Philippine species (*Melanopitta sordida*).

MERULIDÆ.

TURDUS, Linnæus.

92. TURDUS OBSCURUS.

Dark Thrush, Lath. Synop. ii. p. 31, no. 24, "Siberia, woods beyond Lake Baikal."

Turdus obscurus, Gm. S. N. i. p. 816, no. 48 (1788), ex Lath.; Bp. Compt. Rend. xxxviii. p. 4; Coll. Delattre, p. 28.

Turdus rufulus, Drapiez, Dict. Class. d'Hist. Nat. x. p. 443, "Java" (1826).

Turdus pallens, Pallas, Zoographia Rosso-Asiatica, i. p. 457, no. 98, "Dauria" (1831); Temm. & Schlegel, Faun. Japon. *Aves*, p. 63, pl. 27.

Turdus iliacus pallidus, Naumann.

Turdus seyffertitzii, Brehm, Vög. Deutschlands, p. 387, "Herzburg, in Saxony" (1831).

Turdus modestus, Eyton, P. Z. S. 1839, p. 103, "Malaya." Tr. Z. S. ix. p. 187.

Turdus verneri, Géné, Mem. Accad. Torino, xxxvii. p. 291, pl. — (1833).

Turdus javanicus,? Horsf., apud Blyth, Cat. Calc. Mus. p. 161, no. 942, "Malacca," nec Horsf.

Turdus davidianus, Milne-Edwards, Nouv. Archives, i. Bulletin, p. 26, "North China" (1865).

Turdus chrysolaus, Temm., apud Godwin-Austen, J. A. S. B. xxxix. p. 102, nec Temm.

Hab. Philippines (*Bonaparte*).

The occurrence of this species in the Philippines, in itself highly probable, appears to rest on no other good ground than the statement of Bonaparte (*l. c.*).

93. TURDUS CHRYSOLAUS.

Turdus chrysolaus, Temm. Pl. Col. 537, "Japan" (1831); Fauna Japonica, *Aves*, p. 64, pl. 28; Sclater, Ibis, 1863, p. 197, "Manilla."

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† This generalization is not grounded on the phenomena presented by the Orioles alone. It is impossible not to be struck by the numberless proofs the study of birds affords of the tendency of one species to develop into another. On the phases of plumage in *B. sinensis*, conf. Swinh. Ibis, 1863, p. 292.

Mr. Sclater (*l. c.*) thus identified an example of a Philippine Thrush in Mr. Gould's collection.

Professor Newton (Hist. Brit. Birds, pt. iv. p. 254) mentions that Mr. Gould had received an example of *Turdus varius*, Pallas, from Manilla.

PITTIDÆ.

ERYTHROPITTA, Bonaparte.

94. *ERYTHROPITTA ERYTHROGASTRA.

Pitta erythrogastra, Temm. Pl. Col. 212, "Philippines" (1823).

Brachyurus erythrogastra (Temm.), Elliot, Monogr. Pittidæ, pl. xvi.; Ibis, 1870, p. 417, no. 17.

Apparently confined to the Philippines; but the exact limits of its range within that archipelago have yet to be ascertained.

MELANOPITTA, Bonaparte.

95. *MELANOPITTA SORDIDA.

Merula viridis atricapilla moluccensis, Brisson, Orn. ii. p. 319, no. 57, "Moluccas."

Merle des Philippines, D'Aubent. Pl. Enl. 89.

Brève des Philippines, Montb. Hist. Nat. Ois. iii. p. 412, "Philippines."

Turdus sordidus, L. S. Müller, Suppl. p. 143, no. 51 (1776), ex D'Aubent.

Turdus brevicauda, Bodd. Tabl. Pl. Enl. p. 6 (1783), ex D'Aubent.

Corvus philippensis (*C. brachyurus*, var. β), Gm. S. N. i. p. 375, no. 15 (1788), ex Brisson.

Citta melanocephala, Wagler, Syst. Av. "*Corvus*," no. 14 (1827), ex Gm.; nec Forster.

Pitta atricapilla, Cuv., Lesson, Tr. p. 394, "Manille" (1831); Compl. Buffon, p. 501 (1840), nec Müller & Schlegel.

Pitta macrorhyncha, J. E. Gray, Zool. Misc. p. 3, "Philippine Islands" (1831).

Pitta atricapilla, Temm. Pl. Col. Tabl. Méthod. p. 16 (1832), ex D'Aubent.

Tr. Z. S. ix. p. 188. ? *Pitta leucoptera*, Elliot, Proc. Acad. Nat. Sc. Philad. 1861, p. 153, "Ceylon," av. juv.?

Brachyurus atricapillus, Elliot, Monogr. *Pittidæ*, pl. xxv.

Brachyurus sordidus (L. S. Müller), Elliot, Ibis, 1870, p. 419, in pt.

Hab. Luzon, Negros; iris brown (*Meyer*).

The synonymy of this species is somewhat perplexing, in consequence of Brisson (*l. c.*) having given a description, applying in all its details to the Philippine bird, to an individual said by him to have been sent to l'Abbé Aubrey from the Moluccas. Montbeillard (*l. c.*) some years later described seemingly the same bird (and it was figured by D'Aubenton *l. c.*), but attributed its origin to the Philippines. The difficulty thus caused would probably have remained through all time unsolved had not Le Vaillant, by one of his gratuitous and carping criticisms, unintentionally assisted us. With the view of showing that Buffon was in the habit of describing as good species individuals that had been manufactured by dishonest dealers, Le Vaillant (Ois. de Par. vol. i. p. 106) incidentally alludes to this species. He asserts that the description given by

Buffon (Montbeillard) of his "*Brève des Philippines*" was taken from a specimen of the "*Brève de Ceylan*" (=*Corvus brachyurus*, Linn.), in which the head of the common Blackbird had been substituted. This example, Le Vaillant says, formed part of the Abbé Aubrey's cabinet; and adds that he purchased it when that collection was sold, and at once discovered the imposition. This story Cuvier (R. A. 1817, p. 356, note 2) repeated on Le Vaillant's authority. Vieillot (Nouv. Dict. p. 358, and Tabl. Méthod. Orn. p. 686) did the same without mentioning his authority. It remained uncontradicted until Wagler (*l. c.*) showed that Le Vaillant was in error. And Cuvier in the second edition of the 'Règne Animal' (p. 373, note) also corrected Le Vaillant. The statement that Montbeillard described from the specimen in Aubrey's cabinet may be accepted; for it is supported by the collateral evidence of Montbeillard (*l. c.*), who, in a footnote, remarks that it is the same bird that Brisson made his 57th "Grive." As no species of *Melanopitta* is known to exist in the Moluccas, we are justified in assuming that Brisson and Montbeillard described from the same, a Philippine example, and in regarding their descriptions as having formed the common basis of all subsequent synonyms applied to this Philippine form of *Pitta* †.

Six species of black-headed green-bodied *Pittæ* are fully established as meriting specific distinction:—

1. *P. novæ-guineæ*, Müller & Schlegel. New Guinea and the Aru Islands, and most of the Papuan Islands.
2. *P. sanghirana*, Schlegel. Sanghir Islands.
3. *P. rosenbergii*, Schlegel. Soek Island in the Bay of Geelvink.
4. *P. forsteni*, Bp. Celebes. Tr. Z. S. ix. p. 189.
5. *P. muelleri*, Bp. Borneo.
6. *P. sordida* (L. S. Müller). Philippines.

The first three species are representative forms of a Papuan type; the remaining three of an Indo-Malayan.

Dr. Cabanis (Mus. Hein. ii. p. 4, no. 10) identifies an example of *Melanopitta* in the Halberstadt collection, and said to be from Timor, as *Turdus brevicaudus*, Bodd. This is seemingly an error, *P. irena* being the only known Timorese species.

Sumatra is brought within the range of the Philippine *Melanopitta* by Mr. Elliot (*l. c.*); but no authority is quoted.

The examples obtained by Dr. Meyer (♂ ♀) in no way differ.

CRATEROPODIDÆ.

MEGALURUS, Horsfield.

96. MEGALURUS PALUSTRIS.

Megalurus palustris, Horsf. Tr. Linn. Soc. xiii. p. 159, "Java" (1820); Blyth, J. A. S. B. 1844, p. 372; Ibis, 1865, p. 30; *op. cit.* 1867, p. 6.

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† The title of *Pitta philippensis*, Vieill., is quoted by some authors; but I cannot find that Vieillot ever applied a Latin title to the species, his opinion being that Montbeillard's type was fictitious.

Malurus marginalis, Reinw., Temm. Pl. Col. 65. fig. 2, "Java" (1823); Kittlitz, Voy. Lütke (Postels) iii. p. 326.

Hab. Luzon (*Kittlitz*); Philippines (*Blyth*).

Kittlitz mentions (*l. c.*) this species among the birds he observed in the island of Luzon. He remarks that it runs on the ground, and moves along and among the branches of low shrubs without jumping. Mr. Blyth (*l. c.*) identified the same species among the Philippine birds contained in the Derby Museum at Liverpool. Javan and Philippine examples have yet to be compared; and it may here be observed that the *Megalurus* of continental India (*Turdus takko*, Buch. Hamilton, MS. ii. p. 75) does not appear to have been critically compared with the Javan type.

CRATEROPUS, Swainson.

97. CRATEROPUS CAUDATUS*.

Gracula caudata †, Cuvier, in Mus. Paris; Pucheran, Archives du Mus. vii. p. 342; Blyth, Ibis, 1867, p. 6.

Hab. Philippines (*Eydoux & Gervais*).

Tr. Z. S. ix. p. 190.

The above specific title is, by most authors, attributed to Duméril; but no reference is ever cited. Cuvier bestowed the Museum title of *Gracula caudata* on two examples in the Paris Museum—one said to have been obtained in Australia, the other in Bengal. Dr. Pucheran, however (*l. c.*), is of opinion that the second example in reality came from the Philippines, as Manilla is inscribed on its stand, and also because it agrees with an authentic Philippine individual in the Paris Museum, obtained by MM. Eydoux and Souleyet. I can find no other record of a species of this genus having been observed or obtained in the Philippines. Indian authors seem to have been somewhat hasty in identifying the common Indian *Timalia chatarrhæa*, Frankl., with *Gracula caudata*, Cuv. Dr. Pucheran (*l. c.*) does not say that the Bengal bird is equally found in the Philippines, as stated by Mr. Blyth (*l. c.*).

Timalia leucotis, Strickl., is erroneously given from Manilla by Mr. G. R. Gray in the Hand-list, no. 4748.

Homochlamys luscinia, Salvadori, Atti R. Accad. Sc. Torino, v. p. 510, "Filippine o China?" ‡ (1870), is, according to its author, a Timaliine form, which was contained in a collection of Chinese and Philippine birds sent to the Turin Museum. As the describer is not certain of its origin, it is not included in this list.

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[*] [Admitted by error into the list of Philippine birds, *vide* Tweeddale, P. Z. S. 1877, p. 694.—Ed.]

[†] It is possible that, under the title of *Cossyphus caudatus*, Duméril may have described the Cuvieran type; but I have failed to discover the place. The earliest description of the species I can find is by Drapiez, Dict. Class. vol. x. p. 219 (1826); but he quotes Duméril as the author of the title.

[‡] Erroneously stated in the 'Zoological Record' for 1870, p. 47, to be from the Philippines *and* China, an error repeated in the Hand-list, iii. p. 263, no. 4763*. Count Salvadori has since (Ibis, April 1873, p. 179) identified it with *Calamoherpe* (*Herbivox*) *canturiens*, Swinhoe, a Chinese and Formosan species, but which may migrate to the Philippines. Count Salvadori's generic title has precedence.

IRENIDÆ.

Irena, Horsfield.

98. * Irena cyanogastra.

Irena cyanogastra, Vig. P. Z. S. 1831, p. 67, "neighbourhood of Manilla;" Gray & Mitch. Genera, pl. 70; Cassin, United St. Expl. Exped. p. 143.

Hab. Luzon, iris red (*Meyer*); Panay (*Cassin*).

The sexes (*fide* Meyer) do not differ.

BRACHYPODIDÆ.

Ixus, Temminck.

99. * Ixus goiavier.

Petit goiavier de Manille, Sonnerat, Voy. Nouv. Guin. p. 59, pl. 28.

Muscicapa goiavier, Scop. Del. Fl. Faun. Insubr. ii. p. 96, no. 109 (1786), ex Sonn.

Muscicapa psidii, Gm. S. N. i. p. 941, no. 54 (1788), ex Sonn.

Hab. Manilla, February (*Meyer*).

Luzon individuals differ from those inhabiting Java, Malacca, Sumatra, the islands of Madura, Lombock (*P. analis*, Horsf.), and Banjermassing (*P. gourdini*, G. R. Gray, ex Hombr. & Jacq. Voy. Pôle Sud, pl. 14. fig. 1) in being smaller, with a weaker bill, and in having the ear-coverts and sides of the head dark brown, and not white or albescent brown. The Banjermassing race is not separable from *Ixus analis*. Tr. Z. S. ix. p. 191.

100. Ixus sinensis.

Le Gobe-mouche verdâtre de la Chine, Sonnerat, Voy. Indes, ii. p. 197.

Muscicapa sinensis, Gm. S. N. i. p. 942, no. 56 (1788), ex Sonn.

Turdus occipitalis, Temm., Lesson, Tr. p. 410 (*sine descr.*), "Manilla" (1831); Eydoux et Gervais, Mag. de Zool. 1836, p. 10, pl. 66, "Manille;" Voy. Favorite, v. p. 36, pl. 14, "Manilla."

Turdus palmarum, Temm. *nec* Linn., Mus. Lugd., *fide* Bp. Consp. i. p. 366, no. 17.

Hab. Manilla (*Eydoux & Gervais*).

Lesson (*l. c.*) adopted the title of *occipitalis*, Temm., for an example of this species in the Paris Museum, said to have been brought by Sonnerat from Manilla. Temminck, on being applied to by Eydoux and Gervais, denied having ever named the species. On comparing a bird brought by them from Manilla, Eydoux and Gervais found it to agree with the individual in the Paris Museum, and adopted the title of *occipitalis*. If the Philippine habitat of this well-known Chinese form had rested solely on the locality inscribed on the Paris-Museum label, I should have felt disinclined to trust it; but Eydoux and Gervais's statement that they obtained a similar bird at Manilla seems a sufficient authority for its admission here.

101. *Ixus ? urostictus. (Pl. XXXII. fig. 2, *in orig.*)

Brachypus urostictus, Salvadori, Atti R. Accad. Sc. Torino, v. p. 509, "Philippines" (March 27, 1870).

Hab. Luzon (*Meyer*).

A well-marked species, combining the crested head and general characters of an *Otocompsa* with the puffy plumage of *Brachypus euptilosus*, J. & S.

Turdus (*Criniger*) *gularis*, Horsf., is stated by Mr. Blyth (Ibis, 1865, p. 48) to be found in the Philippines. But Dr. O. Finsch (J. f. O. 1867, p. 15) observes that Java is the only locality it is known, with certainty, to inhabit.

Hypsipetes, Vigors.

102. *Hypsipetes philippinensis.

La petite grive des Philippines, Montb. Hist. Nat. Ois. iii. p. 316, "Philippines" (*descr. orig.*).

Turdus philippensis, Gm. S. N. i. p. 814, no. 40 (1788), ex Montb.; Gray, Hand-list, no. 3917; v. Martens, J. f. O. 1866, p. 13, no. 51.

Tr. Z. S. ix. p. 192. *Galgulus philippensis*, Kittlitz, *mot. propr.* Kupfert. p. 8, pl. 12. fig. 2, "Philippines" (1832).

Hypsipetes philippensis, Strickl. *mot. propr.* Ann. & Mag. Nat. Hist. xiii. p. 413, "Manilla" (1844); v. Martens, *tom. cit.* no. 55.

Philedon gularis, Cuv. Mus. Paris; Pucheran, Archives du Mus. vii. p. 344, pl. 18, "China ? ;" Gray, Hand-list, no. 3992.

Hab. Guimaras, Luzon, Zebu (*Meyer*).

The sexes, as determined by Dr. Meyer, do not differ. In the Hand-list, no. 3917, this species is classed along with *Microscelis amaurotis* under the *Pycnonotinæ*, while *Hypsipetes m'clellandi* is included in the *Phyllornithinæ*. It is difficult to discern in what respect *Microscelis* differs from *Hypsipetes*; but anyhow this Philippine species is nothing more than a representative form of *H. m'clellandi.*

Montbeillard's type was obtained in the Philippines by Sonnerat. Cuvier's is said to have been brought from China by Dussumier (October, 1820), *fide* Pucheran, *l. c.* The species is not included in Swinhoe's list of the birds of China (P. Z. S. 1871). It has received the same specific title three times over, each author believing the individual before him to be undescribed.

Pucheran's plate (*l. c.*) represents the top of the head rufous, whereas it is dark cinereous; and the plate on the whole is an indifferent representation of the Philippine bird.

SAXICOLIDÆ.

MONTICOLA, Boie.

103. MONTICOLA SOLITARIA.

Turdus solitarius, L. S. Müller, N. S. Suppl. p. 142, no. 46 (1776).

Monticola eremita (Gm.), v. Martens, J. f. O. 1866, p. 9, no. 18.

Monticola manillensis (Gm.), v. Martens, *tom. cit.* p. 10, no. 19; conf. Sharpe & Dresser, Birds of Europe, Append.; Walden, Tr. Zool. Soc. viii. p. 63[*]; Walden & Layard, Ibis, 1872, p. 101[†].

Hab. Luzon, January; Guimaras, March (*Meyer*); Negros, March (*L. C. Layard*).

One Guimaras individual (♂ *fide* Meyer) is in perfect unspotted blue and rufous plumage. Another, also a male by the label, is in blue and rufous plumage, but has the occiput sullied by brown feathers, some of the breast-feathers edged with albescent and some of the rufous abdominal plumage edged with *blue*. The Luzon bird is generally rufous and blue, but with many of the feathers edged with albescent or brown, noted a male on the label. The dimensions of all three agree with examples from Japan.

PRATINCOLA, Koch.

Tr. Z. S. ix. p. 193.

104. PRATINCOLA CAPRATA.

Rubetra lucionensis, Brisson, Orn. iii. p. 442, no. 30, "Isle de Luçon."

Motacilla caprata, Linn. S. N. i. p. 335, no. 33 (1766), ex Brisson; v. Martens, J. f. O. 1866, p. 10, no. 22; Walden, Tr. Zool. Soc. viii. p. 63, no. 72[*].

Traquet de l'isle de Luçon, D'Aubenton, Pl. Enl. 235. fig. 1 ♂, fig. 2 ♀.

Saxicola fruticola, Horsf. Tr. Linn. Soc. xiii. p. 157, "Java" (1820).

Saxicola bicolor, Sykes, P. Z. S. 1832, p. 92, no. 90, ♂, "Dukhun."

Saxicola erythropygia, Sykes, *l. c.* no. 92, ♀.

Motacilla sylvatica, Tickell, J. A. S. B. 1833, p. 575, "Jungles of Borabhúm and Dolbhûm."

Saxicola melaleuca, Hodgs. Gray's Zool. Misc. p. 83, "Nipaul" (1844) (*descr. nulla*).

Hab. Luzon (*Jagor*).

The type of the following species is stated by Brisson to have been sent from the Philippines to M. Aubrey. It has not been since recorded as inhabiting these islands, and appears to be restricted to Ceylon and peninsular India.

Rubetra philippinensis, Brisson, Orn. iii. p. 444, no. 31, "Philippines."

Motacilla (Thamnobia) fulicata, Linn. S. N. i. p. 336, no. 39, ex Brisson.

Le Traquet noir des Philippines, D'Aubenton, Pl. Enl. 185. fig. 1.

Autre Traquet des Philippines, Buffon, Hist. Nat. Ois. v. p. 230.

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[*] [*Anteà*, p. 165.—Ed.]

[†] [*Anteà*, p. 119.—Ed.]

CITTOCINCLA †, Gould.

105. *CITTOCINCLA LUZONIENSIS.

Turdus luzoniensis, Kittlitz, Kupfert. p. 7, pl. 11. fig. 2, "Luzon" (1832); Mém. présentés à l'Acad. St. Pétersb. vol. ii. pt. 1 & 2, p. 5, pl. 7, "Luzon" (1833).

Hab. Luzon (*Kittlitz*).

Tr. Z. S. ix. p. 194.

COPSYCHUS, Wagler.

106. *COPSYCHUS MINDANENSIS. (Pl. XXXIII. fig. 1, *in orig.*)

Le Merle de Mindanao, Montb. Hist. Nat. Ois. iii. p. 387; D'Aubenton, Pl. Enl. 627. f. 1.

Turdus mindanensis, Gm. S. N. i. p. 823, no. 76 (1788), ex Montb.

Copsychus mindanensis (Gm.), Sundevall, Kritisk Framst. p. 36, note (1857); v. Martens, J. f. O. 1866, p. 10, no. 20; Walden & Layard, Ibis, 1872, p. 102, "Negros." [*Anteà*, p. 119.]

Hab. Zebu, April; Guimaras, March (*Meyer*); Negros (*L. C. Layard*); Mindanao (*v. Martens*).

Professor Sundevall (*l. c.*) was the first author who identified this purely Philippine species, which previously was, and since has continued to be, confounded with the Malayan, *C. musicus* (Raffles).

In a Guimaras male (*fide* Meyer), otherwise in full plumage, the under shoulder-coverts are tipped with white. In Zebu and Negros examples of the male they are entirely black; in a Zebu female (*fide* Meyer) they are ashy; no white on the rectrices of any,—thus agreeing with Montbeillard's account of his type, which was brought to Paris by Sonnerat, presumedly from Mindanao, although its origin is only to be inferred from the title.

CALLIOPE, Gould.

107. CALLIOPE CAMTSCHATKENSIS.

Motacilla calliope, Pallas, Reisen Russischen Reichs, iii. p. 697, no. 17, "Siberia" (1776).

Kamtschatka Thrush, Latham, Synopsis, iii. p. 28, no. 14; Synop. Suppl. p. 140, *tab. in titul.*

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† Mr. G. R. Gray (Hand-list, i. p. 266) adopts *Cercotrichas*, Boie. The genus *Cercotrichas* was established by Boie (Isis, 1831, p. 542), without characters, in these words:—"Under this name I unite *Turdus phœnicopterus*, Temm., *T. erythropterus*, *T. macrourus*, Lath., *T. tricolor*, Vieill., *Sax. leucampter*, Museum Berl." Thus four distinct generic forms are united under one generic title, namely:—

1. *Turdus phœnicopterus*, Temm., = *Ampelis phœnicea*, Lath., a *Campephaga*; type of *Cyrtes*, Reichenbach.
2. *Turdus erythropterus*, Lath., ex Gm. = *Turdus podobe*, L. S. Müller; a Saxicoline form near to *Thamnobia* (conf. Blanford, Observ. Geol. & Zool. Abyssinia, p. 360, no. 127).
3. *Turdus macrourus*, Lath., ex Gm., = *Turdus tricolor*, Vieill., type of *Kittacincla*.
4. *Saxicola leucocampter*, Lichtenst. Mus. Berol. = *Motacilla fulicata*, Linn., type of *Thamnobia*.

Dr. Cabanis (Mus. Hein. i. p. 41), following Rüppell (Syst. Uebers. p. 60), adopted the second species named by Boie as the type of *Cercotrichas*. Messrs. Finsch and Hartlaub, finding it impossible to recognize the incongruous group which Boie had brought together, appropriated (Vög. Ost-Afrik. p. 149) his generic title, re-establishing it as their own, and restricted it to *Turdus erythropterus*, Lath., and *Orgya luctuosa*, Lafr. Mr. G. R. Gray, however, has made the third species the type of *Cercotrichas* and superseded *Kittacincla*, Gould, an arrangement which cannot be upheld.

Turdus camtschatkensis, Gm. S. N. i. p. 817, no. 58 (1788), ex Latham; Blyth, Ibis, 1865, p. 30, "Philippines."

Mr. Blyth (*l. c.*) includes this bird among the Philippine species he observed in the Derby Museum at Liverpool. It is probably only a winter resident.

SYLVIIDÆ.

SYLVIINÆ.

GERYGONE, Gould.

108. *GERYGONE SIMPLEX.

Gerygone modesta, Cab. J. f. O. 1866, p. 10, no. 23, "Luzon" (*descr. nulla*), nec v. Pelzeln.

Gerygone simplex, Cab. *op. cit.* 1872, p. 316, no. 4 (*descr. princeps*).

According to its describer, nearly allied to *G. inornata*, Wallace.

109. PHYLLOPNEUSTE MAGNIROSTRIS.

Phylloscopus magnirostris, Blyth, J. A. S. B. 1843, p. 966, "vicinity of Calcutta;" p. 1008, "Arracan;" Ibis, 1870, p. Tr. Z. S. ix. p. 195.

Mr. Blyth (*l. c.*) states that this Warbler also occurs in the Philippines; it may, however, prove to be the nearly allied *P. borealis*, Blasius†.

CALAMODYTINÆ.

ACROCEPHALUS, Naumann.

110. ACROCEPHALUS ORIENTALIS.

Salicaria turdina orientalis, Schlegel, Faun. Jap. *Aves*, p. 50, pl. 21, "Japan."

Calamoherpe orientalis, Bp. Consp. i. p. 285 (1850), ex Schlegel; Walden, Tr. Zool. Soc. viii. p. 64‡.

Sylvia turdoïdes, ap. Kittlitz, Lütke, Voy. (Postels), iii. p. 327, "Manilla."

Hab. Luzon, February 7; Zebu, March; bill above grey-brown; below reddish; legs and nails pale grey (*Meyer*).

I am unable to separate these Philippine individuals from Amoy examples. Wing 3·25; tail 3·12; tarsus 1·12. It must have been specimens of this species, brought to France by Sonnerat from the Philippines, which were confounded by Montbeillard with *La Rousserole* (Montb. Hist. Nat. iii. p. 294).

DRYMOICINÆ.

CISTICOLA, Kaup.

111. *CISTICOLA SEMIRUFA.

Cisticola semirufa, Cab. J. f. O. 1866, p. 10, no. 25, "Luzon" (*descr. nulla*); *op. cit.* (1872) p. 316, no. 5 (*descr. princeps*).

According to Dr. Cabanis, closely allied to *C. ruficeps*, Gould.

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† [This surmise has been confirmed.—ED.]

‡ [*Anteà*, p. 165.—ED.]

ORTHOTOMUS, Horsfield.

112. * ORTHOTOMUS DERBIANUS.

Orthotomus derbianus, F. Moore, P. Z. S. 1854, p. 309, pl. 76, "Philippines."

Described from an example obtained by Cuming and preserved in the Derby Museum, Liverpool.

113. * ORTHOTOMUS CASTANEICEPS.

Orthotomus castaneiceps, Walden, Ann. N. H. (4) x. p. 252, "Guimaras" (1st October, 1872).

Hab. Guimaras (*Meyer*).

To be readily distinguished from all described species by its dark chestnut head, iron-grey mantle, and bright golden olive-green wings and tail. Its nearest known ally is *O. derbianus.*

Tr. Z. S. ix. p. 196.

MOTACILLIDÆ.

MOTACILLINÆ.

BUDYTES, Cuvier.

114. BUDYTES VIRIDIS.

Green Wagtail, Brown, Illustr. p. 86, pl. 33, "Ceylon."

Motacilla viridis, Gm. S. N. i. p. 962, no. 81 (1788), ex Brown; v. Martens, J. f. O. 1866, p. 10, no. 28, "Manilla."

? *Motacilla flava*, ap. Kittlitz, Lütke, Voy. (Postels), iii. p. 327, "Manilla" (1836).

Observed by Dr. v. Martens at Manilla, both alive in the open country and preserved in the Military Library.

CALOBATES, Kaup.

115. CALOBATES MELANOPE.

Motacilla melanops, Pallas, Reisen Russischen Reichs, iii. p. 696, no. 16, "Dauria" (1776); Zoogr. Rosso-Asiatica, i. p. 500, no. 135.

Motacilla bistrigata, Raffles, Tr. Linn. Soc. xiii. p. 312, "Sumatra" (1821).

Motacilla xanthochistus, Hodgs. Gray's Zool. Misc. p. 83, "Nipaul" (1844).

Pallenura javensis, Bp. Consp. i. p. 250, "Java" (1850).

Calobates sulphurea (Bechstein), Jerd. Birds of India, ii. p. 220, no. 592, "All India and Ceylon."

Calobates melanope (Pallas), Swinh. P. Z. S. 1871, p. 364, no. 202, "China, Formosa, Hainan."

Hab. Luzon, January; Zebu, April (*Meyer*).

Mr. Swinhoe (*l. c.*) has already remarked that the species of *Calobates* found in China, Formosa, and Hainan has a constantly shorter tail than the European bird, and has separated it under the title given by Pallas to the species observed in Dauria. My own observations fully support Mr. Swinhoe's conclusions, which apply to the Philippine bird also, as well as to all those I have examined from continental India. Although a small difference in the length of tail is, by itself, a character too insignificant whereon to base a species, still it must be recollected that the lines of migration of the two forms are perfectly distinct, the short-tailed birds breeding in Northern Asia and visiting Southern Asia and its islands, those with the long tails breeding in Northern Europe and wintering in Southern Europe, Asia Minor, and Northern Africa*. Where the two races osculate remains an interesting point for future investigation; and it is not impossible that the race which winters in Abyssinia will be found to breed in Siberia.

Tr. Z. S. ix.
p. 197.

	Longitudo		
Calobates melanope.	alæ.	caudæ.	
a. Luzon	3·25	3·86	♂, January. Throat white.
b. Zebu	3·25	3·75	♂, April. ,, ,,
c. Malacca	3·25	3·86	♂. ,, ,,
d. ,,	3·00	3·62	January. ,, ,,
e. Maunbhoom	3·12	3·86	March. ,, ,,
f. ,,	3·25	4·00	♀, December 15. Throat yellow.
g. Coorg	3·25	3·62	,, ,,
h. N.W. India	3·25	3·75	♂, March. Throat black; nearly full breeding-dress.
i. Simla	3·25	3·86	♀, December. Throat yellow.
j. Java	3·25	3·86	=*a.*
k. Lake Baikal	3·25	3·86	♀, May 26. =*a.*
l. Central Asia	3·25	4·00	♂, December 18. White throat-feathers fringed with black.
Calobates sulphurea.			
m. Hampstead	3·12	4·25	September 16. Breast buff.
n. ,,	3·25	4·62	October 24. ,, ,,
o. ,,	3·25	4·36	November 18. ,, ,,
p. ,,	3·12	4·25	October 24. ,, ,,
q. Cookham	3·25	4·25	♂, January 5. ,, ,,
r. ,,	3·25	4·12	♂, May 10. ,, ,,
s. ,,	3·25	4·25	♂, September 20. ,, ,,
t. ,,	3·00	4·00	♂, ,, 26. ,, ,, (A young bird.)
u. ,,	3·25	4·36	♂, September 26. Breast buff.
v. Highgate	3·25	4·12	♂, ,, 6. ,, ,,
w. Constantinople	3·25	4·50	♂, December 1. ,, ,,
x. Ortakeuy	3·12	4·25	,, ,,
y. Rostanjee	3·25	4·37	♂, November 19. ,, ,,

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* The great body of the migrants is referred to. Many individuals are known to halt and breed at intermediate points.

Calobates sulphurea.	Longitudo alæ.	Longitudo caudæ.	
z. Arnoutkeuy	3·25	4·12	♂, September 19. Breast buff.
aa. „	3·25	4·25	♀, December 7. „ „
bb. Abadeh (Persia, 6000 ft.) .	3·12	4·20	♀, July. „ „
cc. Resht (Persia)	3·25	4·25	♂, November. „ „
dd. Asia Minor	3·25	4·50	♂, March 22. Throat nearly black (=*C. melanope*, *h*).
ee. „ „	3·25	4·25	♂, March 29. Throat nearly black (=*C. melanope*, *h*).
ff. Ortakeuy	3·35	4·50	♂, March 16. Throat nearly black (=*C. melanope*, *h*).

Tr. Z. S. ix. p. 198.

Motacilla, Linnæus.

116. Motacilla luzonensis.

La Bergeronette à collier de l'isle de Luçon, Sonn. Voy. Nouv. Guin. p. 61, pl. 29.
Motacilla luzonensis, Scopoli, Del. Fl. Faun. Insubr. ii. p. 94, no. 105 (1786), ex Sonn.
Motacilla alba, var. β, Gm. S. N. i. p. 961, no. 11, ex Sonn.
Motacilla alba, var. γ, Lath. Ind. Orn. ii. p. 502, no. 1, ex Sonn.

I have never met with authentic Philippine examples of any Pied Wagtail; and I am therefore unable to identify Sonnerat's species (*cf.* Swinhoe, P. Z. S. 1870, p. 120).

ANTHINÆ.

Corydalla, Vigors.

117. * Corydalla lugubris, sp. nov.

? *Anthus malayanus*, Eyton ? ap. v. Martens, J. f. O. 1866, p. 10, "Luzon."

Hab. Guimaras, March (*Meyer*).

Above, the general ground-colour is olive-grey, each feather broadly centred with brown, most marked on the head and nape. The rump, upper tail-coverts, and shoulder-coverts are almost uniform olive-grey, the brown centres not being very evident. The whole of the wing-feathers are brown edged with albescent. The first primary conspicuously edged with greyish albescent, as in *C. richardi* and *C. rufula*. Between the base of the bill and the eye is a bold patch of albescent feathers, which are continued over the eye rather more narrowly, and then dilate into a broad albescent stripe above the ear-coverts. Lores brown, bordered underneath by an albescent stripe, which extends below the eye and loses itself in the cheek. Ear-coverts dark brown. Under surface of body albescent. Throat almost pure white. A few of the breast-feathers with narrow dark brown centres. Middle pair of rectrices brown, with albescent fringes; outer pair almost pure white; penultimate pair white, with half of the inner web brown; remaining pairs brown. A narrow brown line follows the rami of the mandible. Legs yellow; maxilla brown; mandible yellowish. Neither example exhibits a trace of rufous or ferruginous. The bill is thicker than in *C. rufula* (ex Malacca), of which species this Guimaras bird is a representative.

Wing 3 inches; tail 2·50; bill, from nostril 0·37; tarsus 1·12; hind claw 0·50.

This Pipit is closely allied to *Corydalla hasselti*, Temm.†, ex Borneo, of Gray's Hand-list, no. 3655; but, judging from the single example so entitled in the British Museum, the Bornean species differs sufficiently to make a comparison with a greater number of individuals desirable.

Corydalla infuscata (Blyth, J. A. S. B. 1861, p. 96, "Philippines"), was described from a Foochow-hills specimen, a small and dark-plumaged race of *C. richardi*, sent by Mr. Swinhoe to Mr. Blyth (*cf.* Swinhoe, P. Z. S. 1863, p. 272, no. 75).

PARIDÆ.

Tr. Z. S. ix p. 199.

PARINÆ.

MACHLOLOPHUS, Cabanis.

118. * MACHLOLOPHUS ELEGANS.

Parus elegans, Lesson, Tr. p. 456, *patr. non indic.* (1831); Pucheran, Rev. et Mag. Zool. 1854, p. 68; Bp. Compt. Rend. xxxviii. p. 63; Coll. Delattre, p. 45; Blyth, Ibis, 1867, p. 34, note.

Parus quadrivittatus, La Fresnaye, R. Z. 1840, p. 129, "Manilla or India."

Hab. Philippines (*Pucheran*).

Lesson's type was brought to Paris from the Philippines by Dussumier in 1820 (*fide* Puch. *l. c.*). Bonaparte (*l. c.*) mentions that numbers of individuals were sent to the Brothers Verreaux about the year 1854; but the exact habitat still remains unrecorded.

MELIPHAGIDÆ.

ZOSTEROPS, Vigors & Horsfield.

119. * ZOSTEROPS MEYENI.

Dicæum flavum, Kittlitz, Kupfert. pt. 2, p. 15, pl. 19. f. 2, "Luzon" (1833); Mém. présentés à l'Acad. St. Pétersb. ii. p. 142, pl. 3. f. 3, "Luzon" (1833), nec Horsf.

Sylvia flava, Meyen, Nov. Act. Ac. C. L. C. Nat. Cur. xvi. suppl. p. 79, "Manilla" (1834).

Zosterops meyeni, Bp. Consp. i. p. 398, ex Kittlitz (1850); Hartl. J. f. O. 1865, p. 17.

Hab. Luzon, February (*Meyer*).

Closely resembles *Z. palpebrosa* and *Z. simplex*, but differs from both in having the breast and belly nearly pure white, and in wanting the black lores and dark subocular shading. Above, the shade of green is intermediate between the two. The yellow of the throat and crissum agrees best in shade with *Z. simplex*, but descends lower.

The *Zosterops* mentioned by Mr. Sclater (P. Z. S. 1863, p. 219) is in all probability *Z. parvula*, Hombr. & Jacquin. Voy. Pôle Sud, Ois. pl. 19. fig. 4, ex Banjermassing, and considered by

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† Apparently a Museum title. No description of the species has hitherto appeared. [Handl. Dierk. i. p. 263 (1857).—TWEEDDALE. (MS. note.—ED.)]

Hartlaub (*tom. cit.* p. 15) to be the same as *Z. melanura*, Temm., ex Pontianak. It is erroneously identified with *Z. flava* (Horsf.) in Gray's Hand-list, no. 2119.

NECTARINIIDÆ.

DICÆINÆ.

DICÆUM, Cuvier.

120. * DICÆUM RETROCINCTUM.

Dicæum retrocinctum, Gould, Ann. N. H. (4) x. p. 114, "Manilla, Mindanao" (Aug. 1872).

Hab. Manilla, Mindanao (*Gould*); Zebu† (*Meyer*).

Tr. Z. S. ix. p. 200. It is to be observed that the single example obtained by Dr. A. B. Meyer is noted a male by that gentleman, although it wears the plumage described by Mr. Gould (*l. c.*) as being that of the female.

MYZANTHE, Hodgson.

121. * MYZANTHE PYGMÆA.

Nectarinia pygmaea, Kittlitz, Mém. présentés à l'Acad. de St. Pétersb. vol. ii. pt. 1 & 2, p. 2, pl. 2, "Luzon" (1833).

Hab. Luzon, Guimaras (*Meyer*).

The female (sex as determined by Dr. Meyer) differs from the male in having the entire upper surface and wings greenish olive, and in wanting the ashy breast of the male. When seen from above, it is undistinguishable from *M. ignipectus*, Hodgs., ♀.

NECTARINIINÆ.

NECTAROPHILA, Reichenbach.

122. * NECTAROPHILA SPERATA.

Certhia philippensis purpurea, Briss. Orn. iii. p. 655, no. 27, "Ins. Philippensibus" (1760).

Certhia sperata, Linn. S. N. i. p. 186, no. 13 (1766), ex Briss.; Walden, Ibis, 1870, p. 42. [*Anteà*, p. 87.]

Hab. Luzon, February; ♂, iris yellow-brown (*Meyer*).

Two examples were obtained by Dr. Meyer. One has the head golden green, the uropygium and upper tail-coverts pure brilliant metallic green, and the throat violet. The other has the head coppery green, the uropygium and upper tail-coverts violet-green, and the throat purple.

ARACHNECHTHRA, Cabanis.

123. * ARACHNECHTHRA JUGULARIS ‡.

Certhia philippensis minor, Briss. Orn. iii. p. 616, no. 6, ♂ adolesc. "Ins. Philippensibus" (1760).

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† [The birds from Luzon, Zebu, North Mindanao, and Dinagat are referred by Lord Tweeddale to *D. rubriventre*, Less. (*conf.* P. Z. S. 1877, pp. 698, 763, 829, and 1878, p. 111).—ED.]

‡ For the synonymy of this and the preceding species *cf.* Walden, *loc. cit.*

Certhia jugularis, Linn. S. N. i. p. 185, no. 7 (1766), ex Briss. no. 6; Walden, Ibis, 1870, p. 27. [*Anteà*, p. 76.]

Nectarinia eximia (Temm.), v. Kittlitz, Voy. Lütke (Postels), iii. p. 328, "Manilla," nec Temm.

Hab. Negros, March; Guimaras, March; Zebu, April (*Meyer*).

Dr. Meyer obtained numerous examples from the islands named, but none in Luzon. This species most resembles *A. frenata* (S. Müller), but is distinguished by the dingy colouring of the upper plumage (which is brownish olive, and not yellowish olive), by entirely wanting the yellow super- and subocular stripes of *A. frenata*, and by the yellow of the under plumage being pale primrose-yellow, and not deep yellow. The dimensions are about equal. A Zebu and a Negros male display each some bright orange feathers bordering the dark blue plastron. The Philippine female examples possess, in common with *A. frenata* ♀, a yellow superciliary stripe, but it is much paler in tint.

Tr. Z. S. ix. p. 201.

A. jugularis differs from *A. flammaxillaris* (Blyth) † in wanting the deep maroon pectoral band and the flame-coloured axillaries of the Burmese species; from *A. pectoralis* (Horsf.), from which it is otherwise difficult to be distinguished, in wanting the steel-blue frontal patch.

The examples of the female agree in all respects with Brisson's description of his *Certhia philippensis* (no. 4), excepting that he omits to mention the pale supercilium. The dimensions of the bill, one inch from the gape, given by Brisson are too large for *N. sperata* (L.) (*cf.* Walden, *tom. cit.* p. 28 [*anteà*, p. 77]).

Le Souïmanga de l'isle de Luçon, Montbeillard, Hist. Nat. Ois. v. p. 496. *Certhia manillensis*, Gm. (S. N. i. p. 471, no. 32, 1788, ex Montbeillard; Walden, *tom. cit.* p. 45 [*anteà*, p. 88]), is probably *Nectarinia insignis*, Jard., from the Malay Islands, and not a Philippine species.

CERTHIIDÆ.

Rhabdornis, Reichenbach.

124. * Rhabdornis mystacalis.

Meliphaga mystacalis, Temm. Pl. Col. 335. f. 2, "environs de Manille" (1825).

Climacteris striolata, Kittlitz, Kupft. p. 5, pl. 6. f. 2, "Luzon" (1832).

Hab. Luzon (*Meyer*).

CORVIDÆ.

Corvinæ.

Corvus, Linnæus.

125. * Corvus philippinus.

Corvus philippinus, Bp. Compt. Rend. xxxvii. p. 830, "Philippines" (1853); Notes Orn. Coll. Delattre, p. 8; G. R. Gray, Hand-list, no. 6207.

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† *A. rhizophoræ*, Swinh., differs from *A. flammaxillaris* in possessing a steel-blue frontal patch and in having a dark band below the maroon. The Penang specimen alluded to (P. Z. S. 1871, p. 349, no. 86) is probably *A. pectoralis*; but I have observed a tendency in some species, in *A. zenobia* and *A. frenata* for instance, to develop a frontal patch.

? *Corvus brevipennis*, Schlegel, Bijdr. Dierk. pt. 8, p. 9, pl. 1. fig. 8, "Philippines" (1859); Mus. Pays-Bas, *Coraces*, p. 22.

Hab. Luzon, April; Negros, March; Cujo, December (*Meyer*).

Dr. Meyer obtained two examples (♂, ♀) of this genus in Negros, one (♀) in Luzon, and one (♀) in the island of Cujo. All the four are in perfect and identical plumage. Head, nape, and under plumage black; primaries black, washed with green; remainder of the wings, the back, and the rectrices purple-black. In all, the basal portion of the body-feathers is white, the gradation of the quills is the same, and the form of the bill scarcely differs. I do not doubt that the Luzon and Cujo individuals belong to Bonaparte's species; and the Negros examples only differ in their dimensions, which are greater. These Philippine Crows, while nearly allied to *C. enca* of Java and Celebes, are distinguishable by the under plumage being shaded with green, and not with purple, and by their larger size.

Tr. Z. S. ix. p. 202.

Professor Schlegel (*l. c.*) founded on a specimen procured by Cuming in the Philippines his *C. brevipennis.* He did not treat *C. philippinus* as a distinct species either in his well-known Monograph or in his list of the *Corvinæ* in the Leyden Museum, but left it to be inferred that *C. philippinus* was the same as *C. validus* (Bijdr. t. d. Dierk. p. 13, *C. enca*). From *C. validus*, ap. nos, ex Malacca, Bonaparte's species differs in being smaller, and in its green coloration. Whether a second species, *C. brevipennis*, occurs in the Philippines, must remain for future collectors to ascertain. Mr. G. R. Gray (*l. c.*) has united the two titles.

	Longitudo				
	alæ.	caudæ.	rostr. a nar.	tarsi.	
♀	11·50	8·25	1·50	2·25	Luzon.
♂	12·25	8·75	1·75	2·35	Negros.
♀	12·13	8·75	1·67	2·35	„
♀	11·50	8	1·37	2·25	Cujo.

STURNIDÆ.

STURNINÆ.

ACRIDOTHERES, Vieillot.

126. ACRIDOTHERES CRISTATELLUS.

The Chinese Starling or Blackbird, Edwards, Nat. Hist. i. p. 19, pl. 19, "China" (1743).

Sturnus crinibus cinereis, etc., Klein, Hist. Av. p. 64, no. 3 (1750), ex Edwards.

Merula sinensis cristata, Briss. Orn. ii. p. 253, no. 21 (1760), ex Edwards.

Gracula cristatella, Linn. S. N. i. p. 165, no. 5, "China" (1766), ex Edwards.

Le Merle huppé de la Chine, Montb. Hist. Nat. Ois. iii. p. 367, ex Brisson; D'Aubenton, Pl. Enl. 507.

Merula philippensis, Brisson, apud Bp. Consp. i. p. 420, no. 6, nec Brisson; Coll. Delattre, p. 9.

Acridotheres fuliginosus, Blyth, J. A. S. B. xiii. p. 362, *av. juv.*, "Macao" (1844).

Acridotheres philippensis (Temm.), apud Swinhoe, Ibis, 1870, p. 352, "Hainan."

Acridotheres cristatellus (Linn.), Swinhoe, P. Z. S. 1871, p. 384, "S. China to Shanghai, westwards to Szechuen, Hainan, Formosa."

Hab. Luzon, January and April (*Meyer*).

Two examples in adult plumage. The female (*fide* Meyer) has the wing a quarter of an inch shorter than the male. Dr. Meyer has this note on one of the labels, "Said to have been introduced from China"—a tradition already recorded by Mr. Swinhoe (Ibis, 1867, pp. 387, 388). There is no difference to be detected between these Luzon individuals and examples from Hainan and Shanghai.

Tr. Z. S. ix. p. 203.

Dr. Cabanis (Mus. Hein. i. p. 205, no. 968), as in so many other instances, was the author who first cleared up the confusion into which the synonymy of this species had been thrown. His identification of *Pastor cristatellus* (Gm.), Wagler (Syst. Av. *Pastor*, p. 90, no. 14, "China and Java"), with *Pastor griseus*, Horsf. (=*Acridotheres javanicus* †, Cab. *l. c.*), is undoubtedly correct.

Turdus griseus, Gm., apud Bp. (*l. c.*), nec Gm., agrees with the Javan species. *Gracula cristatella*, L., apud Bp. (*op. cit.*) is probably *Pastor fuscus*, Wagler (*op. cit.*), of India and Burma, and not, as suggested by Mr. Swinhoe (Ibis, 1867, p. 387), *Acridotheres siamensis*, Swinh. P. Z. S. 1863, p. 303, which is a representative form of the Philippine *A. cristatellus*, but to be readily distinguished by its pure white under tail-coverts, broadly white-tipped rectrices, and unicoloured bill.

Merula philippensis, Briss. Orn. ii. p. 278, no. 35, "Philippines,"=*Paradisea tristis*, Linn. S. N. i. p. 167, no. 3 (1766), ex Briss., the *Acridotheres tristis* of modern authors, is now well known to be indigenous to India and Ceylon, although Brisson expressly states that his type specimen was sent to M. Aubrey from the Philippines.

STURNIA, Lesson.

127. STURNIA VIOLACEA.

Rubetra philippensis major, Brisson, Orn. iii. p. 446, no. 32, pl. 22. fig. 3, "Philippines" (*adult*).

Le grand Traquet des Philippines, Buffon, Hist. Nat. Ois. v. p. 230; D'Aubenton, Pl. Enl. 185. fig. 2.

Motacilla violacea, Boddaert, Tabl. Pl. Enl. p. 11 (1783), ex D'Aubent.

Motacilla philippinensis, Gm. S. N. i. p. 968, no. 101 (1788), ex Briss.

Pastor ruficollis, Wagler, Syst. Av., *Pastor*, no. 19, "Manilla" (1829); v. Martens, J. f. O. 1866, p. 15, no. 64.

Lamprotornis pyrrhogenys, Temm. & Schlegel, Faun. Jap. *Aves*, p. 86, "Japan, Borneo" (1842); Walden, Tr. Z. S. viii. p. 78, "Celebes." [*Anteà*, p. 178.]

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† Daudin (Orn. ii. p. 289, 1800) bestowed the specific name of *griseus* on Le Vaillant's *Martin gris de fer* (Ois. d'Afr. pl. 95. f. 2), which is the same species as *Turdus gingianus*, Lath. Ind. Orn. i. p. 362, based on *le petit Martin de Gingi* of Sonnerat (Voy. Indies, ii. p. 194). Horsfield's title of *griseus* for the Javan *Acridotheres* was therefore anticipated, and Dr. Cabanis proposed that of *javanicus*, which stands.

Lamprotornis pyrrhopogon, Temm. & Schlegel, *tom. cit.* pl. 46.

? *Calornis albifrons*, Blyth, J. A. S. B. 1861, p. 96, "Philippines," *fide* Swinhoe, P. Z. S. 1863, p. 302, no. 217.

Tr. Z. S. ix. p. 204. *Le Merle dominiquain des Philippines*, Montb. Hist. Nat. Ois. iii. p. 396 (*juv.*); D'Aubenton, Pl. Enl. 627. fig. 2.

Turdus dominicanus, Boddaert, *op. cit.* p. 38 (1783), ex D'Aubent.

Turdus dominicanus, Gm. *tom. cit.* p. 836, no. 123 (1788), ex Montb.

There can be no doubt that the Philippine bird described by Brisson (*l. c.*) and figured by D'Aubenton, pl. 185. fig. 2, belongs to the same species as that figured in the 'Fauna Japonica,' pl. 46. That the Japanese species is a winter resident in the Philippines, we are assured by Mr. Swinhoe (P. Z. S. 1863, p. 302, no. 217). And *Pastor ruficollis*, described by Wagler from a Manilla specimen, is also undoubtedly the same as the Japanese species. I have already shown that it ranges as far as Celebes (*l. c.*); and Schlegel (*l. c.*) notes it from Borneo. It has not, however, been observed in China nor in the island of Formosa.

The type of *Turdus dominicanus*, Bodd., was described by Montbeillard (*l. c.*) from an individual said to have been obtained in the Philippines by Sonnerat. It may, however, have been in reality of African origin. This example, so indifferently figured by D'Aubenton (*l. c.*), and insufficiently described by Montbeillard (*l. c.*), was clearly that of an immature bird. Wagler (*l. c.* no. 20) appears to have been the first author who referred *Gracula sturnina*, Pallas, =*Sturnus dauricus*, Pallas, to this species. He states that it inhabits the Philippines and China, and that it nests in Dauria. *G. sturnina*, Pallas, is known to winter in Java, Sumatra, Malacca, and Tenasserim, to occur during its migration in North China, and to breed in Dauria. Does it also occur along with *S. violacea* (=*pyrrhogenys*) in the Philippines during the winter? If so, it may have supplied the type of D'Aubenton's 627th plate. If *S. sturnina* is found not to migrate to the Philippines, then *S. dominicanus* must become a synonym of *S. violacea*. One of the salient differentiating characters of *T. sturnina*, even in the earliest plumage, is the occipital spot formed by the black or purple-black tips of the occipital feathers. In Mr. Blyth's description of *Calornis albifrons*, taken from an undoubted but immature Philippine individual (*cf.* Swinhoe, *l. c.*), this spot is stated to be present. It is true that Mr. Swinhoe identified it with *S. pyrrhogenys*, a species which I believe never exhibits an occipital black spot. Unless *T. dominicanus* prove to be an African form, it is a title that must fall, being junior to both *S. violacea* and *S. sturnina*.

The synonymy of *Gracula sturnina* is as follows:—

Gracula sturnina, Pallas, Reisen Russischen Reichs, iii. p. 695, no. 11, "South Dauria" (1776).

Sturnus dauricus, Pallas, Act. Holmiens. 1778, p. 197, pl. 7; Zoogr. Rosso-Asiatica, i. p. 422, no. 72 (1811–31).

Turdus striga, Raffles, Tr. Linn. Soc. xiii. p. 311, no. 8, "Sumatra" (1821).

Pastor sturninus (Pallas), Wagler, Syst. Av. *Pastor*, no. 20 (1827).

Pastor malayensis, Eyton, P. Z. S. 1839, p. 103, "Malaya;" Blyth, J. A. S. B. 1846, p. 35, "Common at Malacca."

Pastor dominicanus (Gm.), Strickl. J. A. S. B. 1867, p. 470. Tr. Z. S. ix. p. 205.

Sturnius pyrrhogenys (Temm. & Schlegel), Swinhoe, Ibis, 1861, p. 338, "between Takoo and Peking," nec T. & S.

Calornis dauricus (Pallas), Horsf. & Moore, Cat. Mus. E. I. C. ii. p. 544, no. 814.

Temenuchus dauricus (Pall.), Swinhoe, P. Z. S. 1871, p. 384, no. 365.

Calornis, G. R. Gray.

128. * Calornis panayensis.

Le petit Merle ou Musicien de l'isle Panay, Sonn. Voy. Nouv. Guin. p. 115, pl. 73.

Muscicapa panayensis, Scop. Del. Fl. Faun. Insubr. ii. p. 96, no. 110, ex Sonn. (1786); Walden, Tr. Z. S. viii. p. 79.

Turdus cantor, Gm. S. N. i. p. 837, no. 124 (1788), ex Sonn.; v. Martens, J. f. O. 1866, p. 15, no. 66.

Le Merle des colombiers, Montb. Hist. Nat. Ois. iii. p. 381, "Philippines."

Turdus columbinus, Gm. *op. cit.* p. 836, no. 122 (1788), ex Montb.

Turdus cantor, Lath., Kittlitz, Kupft. p. 11, pl. 15. f. 1, "Philippines."

Lamprotornis panayensis (Scop.), Cab. M. Hein. i. p. 200.

Calornis panayensis, Scop., et *Calornis columbina*, Gm., apud G. R. Gray, Hand-list, nos. 6373, 6384.

Hab. Zebu, April; Luzon, January; Negros, March (*Meyer*).

The Philippine *Calornis*, for long confounded by several authors with the Javan and the Malaccan species, was first recognized as distinct by Dr. Cabanis (*l. c.*). A good series in Dr. Meyer's collection enables me to fully confirm the opinion of Dr. Cabanis.

It is a large species of a dark bronze-green colour, and ranges nearest to *Calornis neglecta*, nob. As labelled by Dr. Meyer, the sexes do not differ; we must therefore assume that examples in streaked plumage are young individuals. The eggs are described in 'The Ibis,' 1872, p. 97†.

Lamprotornis magnus, von Rosenb., Schlegel (Ned. Tijdsch. Dierk. iv. p. 18, "Island of Soëk"—1871), is a *Calornis* with the two pairs of middle rectrices exceedingly developed and measuring more than twice the length of the body.

EULABETINÆ.

Sarcops, Walden.

129. * Sarcops calvus.

Merula calva, Brisson, Orn. ii. p. 280, no. 36, "Philippines."

Gracula calva, Linn. S. N. i. p. 164, no. 2 (1766), ex Brisson; v. Kittlitz, Kupft. p. 9, pl. xiii. f. 2.

Le Goulin, Montb. Hist. Nat. Ois. iii. p. 420.

Le Goulin gris, Cuv. R. A. i. p. 381 (1829).

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† [*Antea*, p. 117.—Ed.]

Tr. Z. S. ix. p. 206. *Gymnops*† *calvus* (Gm.), Cuv., *l. c.*

Gymnops griseus, Cuv., ap. Meyen, Nov. Acta Acad. C. L. C. Nat. Cur. xvi. suppl. prim. p. 78.

Gymnops tricolor (L. S. Müller), ap. G. R. Gray, Hand-list, no. 6275, nec L. S. Müller.

Gymnops calvus (Linn.), Walden & Layard, Ibis, 1872, p. 103.

Hab. Luzon (*mus. nostr.*); Guimaras, Negros (*Meyer*).

Inhabitants from localities cited identical. Sexes (*fide* Meyer) alike.

The two following species of ICTERIDÆ are described and figured by Sonnerat, who informs us that they are found at Antigua (Panay), and also on the New Continent. Beyond his statement, there is not a tittle of evidence in favour of their Philippine habitat.

(1) *Le Troupiale rouge d'Antigue*, Sonnerat, Voy. Nouv. Guin. p. 113, pl. 68.

Xanthornus holosericeus ♂, Scopoli, Del. Fl. Faun. Insubr. ii. p. 88, no. 36 (1786), ex Sonn.; G. R. Gray, Hand-list, no. 6501; Sclater, Cat. Am. Birds, no. 831; Cab. Mus. Hein. i. p. 190, no. 919.

Oriolus ruber, Gm. S. N. i. p. 388, no. 34 (1788), ex Sonn.; Bp. Consp. i. p. 129.

Amblyramphus bicolor, Leach, Zool. Misc. p. 82, pl. 36, "Cayenne" (1814).

And

(2) *Le Troupiale jaune d'Antigue*, Sonnerat, *l. c.* pl. 59.

Xanthornus holosericeus ♀, Scopoli, *l. c.* (1786), ex Sonn.

Oriolus flavus, Gm. *tom. cit.* p. 389, no. 35 (1788), ex Sonn.

Xanthosomus flavus (Gm.), Sclater, *op. cit.* no. 830; G. R. Gray, *op. cit.* no. 6491.

FRINGILLIDÆ.

FRINGILLINÆ.

PYRGITA, Cuvier.

130. PYRGITA MONTANUS.

Fringilla montana, Linn. S. N. i. p. 324, no. 37, "Europe" (1766); Cab. Mus. Hein. i. p. 156, no. 792.

The occurrence of the Tree-Sparrow in the Philippines, in itself not unlikely, rests solely on the authority of Dr. Cabanis (*l. c.*).

Passer jugiferus, Temm., Bp. Consp. i. p. 508, "Philippines" (1850), is stated by Mr. Blyth (Ibis, 1870, p. 172) to be the same as his *Passer flaveolus*, J. A. S. B. xiii. p. 946, "Arracan" (1844); and he regards its Philippine habitat as dubious.

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† Previously employed by Spix (Av. Brasil. i. p. 11, 1824) for *Falco aterrimus*, Temm. Pl. Col. pl. 37, = *Daptrius ater*, Vieillot (Analyse, p. 69 A).

PLOCEIDÆ.

Tr. Z. S. ix. p. 207.

PLOCEINÆ.

PADDA, Reichenbach.

131. PADDA ORYZIVORA.

The cock Padda, or Rice-bird, Edwards, Nat. Hist. i. pl. 41, "China."

Loxia oryzivora, Linn. Amœn. Acad. iv. p. 243, no. 16 (1759), ex Edwards; v. Martens, J. f. O. 1866, p. 14, no. 59; Walden, Tr. Zool. Soc. viii. p. 72. [*Anteà*, p. 173.]

Observed by Dr. v. Martens in the Museum of the Military Library at Manilla, and, in all likelihood, an indigenous species.

MUNIA, Hodgson.

132. * MUNIA JAGORI.

Munia (Dermophrys) jagori, Cab., v. Martens, J. f. O. 1866, p. 14, no. 60, "Luzon."

Dermophrys jagori, Cab. *op. cit.* 1872, p. 316, no. 6.

Munia minuta (Meyen), G. R. Gray, Hand-list, no. 6761.

Hab. Zebu, April (*Meyer*).

Two examples (♂ ♀, *fide* Meyer) of an almost black-headed *Munia* were obtained in Zebu by Dr. B. Meyer. Both have the upper tail-coverts glistening dark chestnut, and the middle pair of rectrices rich glistening ferruginous. In the male the black extends from the breast to the under tail-coverts, forming a broad, mesial, black, continuous band. In the female this black mesial band is interrupted by a chestnut band crossing the breast. In examples of *M. rubro-nigra* from the Deyra Doon, Bengal, Tippera, Mymensing, and Tonghoo, as well as of *M. formosana* from Formosa, and *M. brunneiceps* from Celebes and Banjermassing, the black mesial band is not continuous, nor is it so broadly developed on the abdomen. In *M. rubro-nigra* the whole head is intensely black. In *M. formosana* the occiput and nape are faded brown; and Mr. Swinhoe has established that this is normal in the adult bird (Ibis, 1865, p. 356). The Philippine, Celebean, and South-Bornean forms do not appear to have the head so intensely black as in *M. rubro-nigra*, although darker than in *M. formosana*.

In the Philippine examples the head and nape are not of a true black, but rather of a dark brown. This has also been pointed out by Dr. Cabanis (*l. c.*). In *M. brunneiceps* of Celebes the head is still less black, and the black abdominal band is interrupted.

As the synonymy of *M. atricapilla* and *M. rubro-nigra*, thoroughly disentangled by Mr. Blyth (Cat. Calc. Mus.) and by Mr. Moore (Cat. E. I. C. Mus.), has again been thrown into confusion by Mr. Gray (Hand-list), it may be useful to recapitulate it.

MUNIA ATRICAPILLA.

Tr. Z. S. ix. p. 208.

The Chinese Sparrow, Edwards, Nat. Hist. Birds, i. p. 43, pl. 43, ♂.

Coccothraustes sinensis, Brisson, Orn. iii. p. 235, no. 7, ex Edwards.

Loxia malacca, var. β, Linn. S. N. i. p. 302, no. 16, ex Brisson.
Loxia atricapilla, Vieillot, Ois. Chant. p. 84, pl. 53 (1805).

Distinguished by the absence of a black mesial abdominal band; otherwise like *M. rubronigra.* The exact range remains to be ascertained. Blyth (*op. cit.* p. 337) mentions having seen it from Penang. Moore (*op. cit.* ii. p. 508, no. 775) notes a drawing of the species from Sumatra, and an example from Penang. Under the title of *Munia sinensis* (Brisson), Swinhoe includes the species in his list of the Birds of China (P. Z. S. 1871, p. 384, no. 368). Nothing more has been recorded of its distribution.

MUNIA RUBRO-NIGRA.

Munia rubro-nigra, Hodgs. As. Researches, xix. p. 153, "Nipaul" (1836).
Lonchura melanocephala, M'Clelland, P. Z. S. 1839, p. 163, "Assam."
Spermestes melanocephalus, Hodgs. Gray's Zool. Misc. p. 84 (1844).
Munia atricapilla (Vieill.), G. R. Gray, Hand-list, no. 6759, nec Vieillot.

Said by Mr. Layard to occur in Ceylon† (Ann. & Mag. Nat. Hist. 1854, vol. xiii. p. 258), this species appears to be rare, if even known, in Southern India. It is common in the British territories to the north-east and south-east of Bengal, such as Assam, Tippera, Arracan, Tenasserim, Burma, also in Bengal, and along the base of the Himalayas.

133. *MUNIA MINUTA.

Fringilla minuta, Meyen, Nov. Act. Acad. C. L. C. Nat. Cur. xvi. suppl. prim. p. 86, pl. 12. fig. 2, "Manilla" (1834); v. Martens, J. f. O. 1866, p. 14, no. 61.

Hab. Sugar-plantations of Luzon (*Meyen*).

As described and depicted by Meyen, this *Munia*, with the exception of the chin and throat, is bright rufous. I have never met with examples agreeing with Meyen's description, although he states that this Finch occurs in numberless troops in the Luzon sugar-plantations. It may be distinct from *M. jagori*, and is so treated by Dr. v. Martens (*l. c.*). The *M. minuta* of Mr. Gray's Hand-list, no. 6761, refers to examples of *M. jagori.*

OXYCERCA, G. R. Gray.

134. *OXYCERCA JAGORI.

Uroloncha jagori, Cab. J. f. O. 1866, p. 14, no. 62, "Luzon" (*descr. nulla*).
Oxycerca jagori, Cab. *op. cit.* 1872, p. 317, no. 7 (*descr. princeps*).

Hab. Luzon, in February, ♂, ♀; bill, feet, and claws bluish grey (*Meyer*).

Of the same type as *Munia topela*, Swinh., but of greater dimensions. The chin and throat dark chocolate-brown, without a tinge of ferruginous. Nor does this colour descend so low as its corresponding shade in *M. topela.* The undulations on the under surface, which are of the same character as in *M. topela*, are bolder and larger. Quite distinct from *M. punctularia* (Linn.) and *M. nisoria* (Temm.). Tr. Z. S. ix. p. 209.

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† Its occurrence in Ceylon as an indigenous species has not been confirmed.

Coccothraustes philippinensis, Brisson, Orn. iii. p. 232, no. 6, pl. xii. fig. 1, ♂, pl. xviii. figs. 1, 2, nest (1760).

Loxia philippina, Linn. S. N. i. p. 305, no. 36 (1766), ex Brisson; v. Martens, J. f. O. 1866, p. 14.

Gros-bec des Philippines, D'Aubenton, Pl. Enl. 135. fig. 2.

Le Toucnam-courvi, Buffon, Hist. Nat. Ois. iii. p. 465.

Loxia maculata, L. S. Müller, Suppl. p. 150, no. 56 (1776), ex D'Aubent.

Originally and minutely described by Brisson from examples in M. Aubrey's cabinet, said to have come from the Philippines. Since that date (1760) there is no evidence of any species of *Ploceus* inhabiting those islands. Camel does not include any members of the genus; and he would certainly have noticed a bird so remarkable for the conspicuous nest it constructs. Dr. Jerdon (Birds of India, ii. p. 348) states that he is convinced that the figure in D'Aubenton's plate (*l. c.*) refers to *P. hypoxanthus* (Daud.*).

In this opinion I find it impossible to concur. D'Aubenton's figure fairly depicts the common Indian Weaverbird, *Ploceus baya*, Blyth (J. A. S. B. 1844, p. 945), the belly being represented pure white, while in the so-called *P. hypoxanthus* the belly and under tail-coverts are rich golden. According to Buffon (*l. c.*), D'Aubenton's figure was taken from a male example of Brisson's *Coccothraustes philippinensis*, on which Linnæus founded *Loxia philippina*. Brisson's description completely agrees with *P. baya*, Blyth, and cannot apply to *P. hypoxanthus* of the Indian authors. Moreover Brisson describes and figures the nest of his Weaverbird, and unmistakably represents the pensile nest of *P. baya*, Blyth, and not the non-pensile nests of the other known Asiatic Weavers *P. manyar* (Horsf.), *P. bengalensis* (Linn.), and *P. javanensis* (Less.). It is satisfactory to find that Hermann (Observ. Zool. p. 205, 1804) identified an example of a Weaverbird, sent from Tranquebar along with its *pensile* nest, as *Loxia philippina*, Linn.; for he evidently describes a young male of *P. baya*, Blyth.

"*Toucnam-courvi*," the supposed native name in the Philippines, according to Brisson (*l. c.*), does not sound Tagalish, as already remarked by Dr. v. Martens (*l. c.*); while, on the other hand, it closely resembles the Malay name for the common Weaverbird, *P. baya*, Blyth, in Ceylon, and which Mr. Layard (Ann. & Mag. Nat. Hist. xiii. 2nd series, p. 257, no. 158) renders *Tokanam cooroovi*, *i. e.* Basket-maker bird. Tr. Z. S. ix. p. 210.

Therefore, until authentic examples of a Philippine species of *Ploceus* sufficiently agreeing with Brisson's original description are obtained, it will be most in accordance with existing evidence to refer the common Indian and Ceylon Weaverbird, *P. baya*, Blyth, to the Linnæan species *Loxia philippina*.

The *Ploceus philippinus* of Gray's Hand-list, no. 6612, and stated to be from the Philippines only, is *not* represented in the British Museum.

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* *Loxia hypoxantha*, Sparrman, Mus. Carls. fasc. iii. no. 71, "Sumatra" (1788).

Loxia hypoxantha, Daudin, Traité d'Ornith. ii. p. 429 (1800), ex Sparrm.

Above *uniform* olive-green; forehead and undersurface bright yellow. Evidently not a *Ploceus* (*cf.* Sundevall, Kritisk, p. 12, no. 711). The well marked species to which the specific title of *hypoxanthus* has been applied by Jerdon, Blyth, and Dr. Pucheran (Rev. Zool. 1854, p. 67), and which is found, in suitable localities, throughout Burma, must take the title of *Ploceus javanensis* (Lesson), Traité, p. 446, "Java" (1831).

The following species, stated by Sonnerat to inhabit the island of Panay as well as the Cape of Good Hope, is now known to be restricted to the African continent:—

La veuve de l'isle de Panay, Sonnerat, Voy. Nouv. Guin. p. 117, pl. 75.
Emberiza signata, Scopoli, Del. Fl. Faun. Insubr. ii. p. 95, no. 103 (1786), ex Sonn.
Emberiza panayensis, Gm. S. N. i. p. 885, no. 69 (1788), ex Sonn.†
Veuve à poitrine rouge, D'Aubenton, Pl. Enl. 647.
Fringilla ardens, Boddaert, Tabl. d. Pl. Enl. p. 39 (1783), ex D'Aubent.
Vidua rubritorques, Swainson, Birds West Africa, i. p. 174 (1837).
Penthera rubritorques (Sw.), Bp. Consp. i. p. 448.
Niobe ardens (Bodd.), G. R. Gray, Hand-list, no. 6669.

COLUMBÆ.

TRERONIDÆ.

Osmotreron, Bonaparte.

135. Osmotreron vernans.

Columba viridis philippensis, Briss. Orn. i. p. 143, pl. 11. f. 2, "Philippines" (1760).

Columba vernans, Linn. Mantissa Plant. p. 526 (1771), ex Briss.; Walden, Tr. Z. S. viii. pp. 81, 113‡.

Pigeon verd des Philippines, D'Aubenton, Pl. Enl. 138.

Columba viridis, L. S. Müller, Suppl. p. 132 (1776), ex D'Aubent.

Le Pigeon verd de l'isle de Luçon et d'Antigue, Sonn. Voy. N. Guin. p. 110, pl. 64, ♂, 65, ♀ (1776).

Columba viridis, Scopoli (*mot. propr.*), Del. Fl. Faun. Insubr. ii. p. 94, no. 95 (1786), ex Sonn.

The purple Pigeon, Brown, Illustr. p. 42, p. 18, "Java" (1776).

Columba purpurea, Gm. S. N. i. p. 784, no. 61 (1788), ex Brown.

Hab. Luzon, April (*Meyer*).

A single example, a male, but erroneously marked a female by the collector, is contained in Dr. Meyer's collection. It agrees in dimensions and colouring with Malaccan, North-Bornean, Celebean, and Cambodian specimens (*mus. nostr.*).

Tr. Z. S. ix. p. 211.

136. *Osmotreron axillaris.

"*Treron axillaris*, G. R. Gray," Bp. Compt. Rend. xxxix. p. 875 (1854), *patr. incert.*; Conspectus, ii. p. 13 (1857).

Treron aromatica, Gm., ap. G. R. Gray, Cat. Brit. Mus. *Columbæ* (1856), p. 10, "Philippines," nec Gm.

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† Gmelin erroneously quotes Sonnerat's 76th plate.

‡ [*Anteà*, pp. 182, 211.—Ed.]

Treron amboinensis (Müller), ap. G. R. Gray, Hand-list, no. 9079, nec Müller.

Treron aromatica (Gm.), ap. Schlegel, Nederl. Tijdschr. Dierk. 1863, p. 64, "Philippines," nec Gm.; Mus. Pays-Bas, *Columbæ*, p. 53 (March 1873); Bp. Icon. Pig. pl. 7.

Hab. Luzon, Guimaras, Negros (*Meyer*).

A large series of the Philippine maroon-backed *Osmotreron* was obtained by Dr. Meyer from the localities cited; and they in no way differ among one another. They belong to the same subsection as *Osmotreron aromatica* (Gm.) of the Moluccas (*cf.* Wallace, P. Z. S. 1863, p. 33, & Ibis, 1863, p. 319), in which the undercoverts of the tail *in both sexes* are white, or yellowish white, without any markings. From the Moluccan species *O. axillaris* it differs in being somewhat larger, by having a large and very powerful bill, by the maroon mantle covering a larger surface of the back and being of a lighter shade, and by the ventral plumage and the thigh-coverts being almost bright yellow mixed with *very* dark green. The middle toe measures one inch, and in *O. aromatica* an eighth less; the corneous part of the maxilla seven-sixteenths against five-sixteenths of an inch in the Moluccan bird.

The title *axillaris* refers to the black edge of the shoulder in this species (*fide* Bp. Icon. Pig.). This part and the lesser shoulder-coverts are nearly black, being very dark slate-colour in fully adult males.

Professor Schlegel (Mus. Pays-Bas, *Columbæ*, p. 53) makes *O. axillaris*, G. R. Gray, apud Bp. Consp. ii. p. 13, equal to *T. griseicauda*, G. R. Gray; but Bonaparte's diagnosis does not agree with either *O. axillaris* or *O. aromatica*.

Wagler states (Syst. Av. *Columba*, no. 8) that he saw a specimen of his *Columba* (*Osmotreron*) *fulvicollis* among a number of Philippine birds sent to Amsterdam. Prince Bonaparte (Consp. ii. p. 14) also cites the Philippines as being within the range of that species. I can find no other evidence of its Philippine habitat; and Wagler does not include the Philippines when writing on the species at a subsequent date (Isis, 1829, p. 738).

Great confusion still prevails in the synonymy of the "maroon-backed" members of the genus *Osmotreron*; and I therefore add a list of the ten species known to me as falling under this definition:—

Under tail-coverts creamy white and immaculate in both sexes.

Tr. Z. S. iv.
p. 212

(1) *Columba amboinensis*, L. S. Müller, Suppl. p. 132, no. 35, ex Pl. Enl. 163 * (1776).

Columba aromatica, Gm. S. N. i. p. 778, no. 47, "Amboina," ex Brisson, Orn. i. p. 145, no. 39, "Amboyna."

Hab. Bouru and Amboyna (*Wallace*).

(2) *Treron axillaris*, G. R. Gray, *l. c.*, "Philippines."

Hab. Luzon, Negros, Guimaras (*Meyer*).

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* Buffon (H. N. Ois. ii. p. 528) expressly states that this figure was taken from Brisson's *Pigeon vert d'Amboine.*

Under tail-coverts creamy immaculate white in male, mottled with greenish in female.

(3) *Columba pompadora*, Gm. S. N. i. p. 775, no. 9, "Zeyloniæ," ex Brisson, Illustr. pl 19, ♂, 20, ♀, "Ceylon;" Bp. Icon. Pigeons, pl. xi. f. 1, ♀.

Treron flavo-gularis, Blyth, J. A. S. B. xxvi. p. 225, "Ceylon" (1857).

Hab. Ceylon (*mus. nostr.*).

Under tail-coverts green, with cream-coloured tips in both sexes.

(4) *Treron chloroptera*, Blyth, J. A. S. B. 1845, p. 852, "Nicobars."

Hab. Nicobars (*Blyth*); Andamans (*mus. nostr.*).

Under tail-coverts cinnamon in male, yellowish white, mottled with green, in female.

(5) *Vinago affinis*, Jerd. Madr. J. L. & Sc. xii. p. 13, ♀.

Vinago malabarica, Jerd. Illustr. Ornith. letterpress to pl. 21, ♂, "Malabar" (March, 1845); Bp. Icon. Pigeons, pl. xi. fig. 2, ♀, pl. xii. ♂.

Hab. Peninsular India (*Jerdon*).

(6) *Treron pulverulenta*, Wallace, Ibis, 1863, p. 319, "Java."

Treron curvirostra, Vieill., Bp. Icon. Pigeons, pl. vi.

Hab. Java (*Wallace*).

(7) *Treron griseicauda*, G. R. Gray, Mus. Brit. *Columbæ*, p. 10, "*patr. incert.*" (1856).

Hab. Celebes, Sula Islands (*Wallace*).

A large ochreous pectoral patch; under tail-coverts in male dark cinnamon, in female creamy white dashed with pale cinnamon.

(8) *Columba olax*, Temm. Pl. Col. 241, ♂, "Sumatra" (1823).

Hab. Sumatra, Malacca (*mus. nostr.*); Java (*Schlegel*).

(9) *Osmotreron phayrei*, Blyth, J. A. S. B. 1862, p. 344.

Hab. Assam, Sylhet, Arracan, Pegu, Martaban, rare in Lower Bengal (*Blyth*); Tonghoo (*mus. nostr.*).

Tr. Z. S. ix. p. 213.

Under tail-coverts cinnamon in the male, green edged with white and tinged with cinnamon in the female; head and neck ferruginous chestnut.

(10) *Columba fulvicollis*, Wagler, Syst. Av. *Columba*, no. 8 (1827), ex Temm.; Wallace, Ibis, 1865, p. 375.

Columba aromatica, var., Temm. & Knip, Pig. p. 30, pl. 6, "Batavia;" Pig. et Gallin. i. pp. 53, 442.

"*Columba ferruginea*, Reinhardt, MS.," Wagler, Isis, 1829, p. 738.

Columba cinnamomea, Temm. Recueil d'Ois. livr. 93, "Pontianak" (1835).

Treron tenuirostre, Eyton, Ann. Nat. Hist. xvi. p. 230, "Malacca" (1845).

Hab. Borneo (*Temm.*); Malacca (*Eyton*); Sumatra (*Wallace*).

LEUCOTRERON, Bonaparte.

137. * LEUCOTRERON GIRONIERI. (Pl. XXXIV. fig. 1, *in orig.*)

Leucotreron gironieri, J. Verr. et Des Murs, Ibis, 1862, p. 342, pl. 12, "Tallawan (Philippines)" (*juv.*).

Ptilopus geversi, Schlegel, Ibis, 1863, p. 120.

Ptilopus hugoniana, Schlegel, Nederl. Tijdschr. Dierk. 1863, p. 60, pl. 3. f. 2, "Luçon" (*juv.*); Wallace, Ibis, 1865, p. 378.

Ptilopus hugonianus, Schlegel, Mus. Pays-Bas, *Columbæ*, p. 36 (March, 1873).

Hab. Luzon, Guimaras (*Meyer*).

In the adult plumage this species has the entire head, neck, and upper breast pale ashy white, the occiput and nape being faintly washed with light green. Bordering the grey of the breast and intervening between it and the ashy green of the lower parts is a broad dark purple band, rather deeper in the middle than at the sides. The under tail-coverts are cinnamon-colour. The under surface of the rectrices is slate-colour, with a broad terminal almost white band, which above appears yellow; the chin and throat and the space before the eye black; remainder of the upper plumage bright rich green, with a golden gloss in certain lights. From a Guimaras example, noted as a male by Dr. Meyer.

Another male example from Luzon has the abdominal region of a still more ashy green, some of the ventral plumage being tawny. An individual from Guimaras, and noted a female, has the abdominal region deep green, and the dark purple pectoral band is represented by a large triangular patch of the same colour, a few purple feathers on each side only indicating the position of the band. The pale ashy white of the nape is more deeply tinged with green. Another Guimaras female (*fide* Meyer) has the head, nape, and breast green, the forehead alone being bluish grey; the abdomen is mixed tawny ashy green; on the breast is a limited purple triangular patch. This individual resembles very nearly the figure in 'The Ibis' (*l. s. c.*), only that in the plate by Jennens the purple patch is represented much too low down, and the under tail-coverts are not dark enough. It also agrees well with the description given by Professor Schlegel (*l. c.*).

A fourth Guimaras individual (female, *fide* Meyer) has the plumage still more intensely green than the last; the bluish grey of the forehead is less distinct, and the uniform deep green of the breast is only broken by a faint indication of dark purple at the tips of two or three feathers. The under tail-coverts are mostly pale cinnamon. In all five examples the mandible is carmine at its base, the remainder of the bill yellow, the feet carmine. Tr. Z. S. ix. p. 214.

It is probable that in the young birds the head and breast are green, and that the dark purple pectoral patches are rudimentary indications of the broad pectoral band of the adult. As in *Leucotreron gularis*, of which this Philippine species is a beautiful representative form, the first primary is abruptly attenuated near the end.

Ramphiculus, Bonaparte.

138. * Ramphiculus occipitalis.

Ptilonopus occipitalis, G. R. Gray, List Birds Brit. Mus. *Gallinæ*, iii. p. 1, "Philippines" (1844), *descr. nulla*; Gray & Mitch. Genera, ii. p. 467, pl. 118; List Birds Brit. Mus. *Columbæ*, p. 7, no. 17 (1856); Wallace, Ibis, 1865, p. 378; v. Martens, J. f. O. 1866, p. 22, no. 124.

Ramphiculus occipitalis (G. R. Gray), Bp. Compt. Rend. xxxix. p. 878 (1854); Consp. ii. p. 17; Iconogr. Pig. pl. 14.

Osmotreron batilda, Bp. Compt. Rend. *l. c. juv.*, "Philippines" (1854); Consp. ii. p. 27; Wallace, *tom. cit.* p. 382; v. Martens, *l. c.* no. 125.

Columba occipitalis (G. R. Gray), Schlegel, Handleiding, i. p. 411 (1857).

Hab. Luzon (*Meyer*).

No difference between the sexes as determined by Dr. Meyer. The young bird was described as distinct by Prince Bonaparte, and the adult and young severally made the type of separate genera.

A Luzon example of *Ptilopus jambu* (Gm.) is stated by Professor Schlegel to be contained in the Leyden Museum (Mus. Pays-Bas, *Columbæ*, p. 36). The correctness of the attributed habitat requires confirmation.

Phabotreron, Bonaparte.

139. * Phabotreron amethystina. (Pl. XXXIV. fig. 2, *in orig.*)

Phapitreron amethystina, Bp. Compt. Rend. xl. p. 214, "Philippines" (1855); Consp. ii. p. 28 (1857).

Chlorœnas amethystina (Bp.), Schlegel, Mus. Pays-Bas, *Columbæ*, p. 80.

Hab. Luzon (*Meyer*).

140. * Phabotreron leucotis.

Columba leucotis, Temm. Pl. Col. 189, "environs de Manille" (1823); Walden & Layard, Ibis, 1872, p. 104†, "Isl. of Negros."

Phapitreron leucotis (Temm.), Bp. Compt. Rend. xxxix. p. 879 (1854); Consp. ii. p. 28.

Chlorœnas leucotis (Temm.), Schlegel, Mus. Pays-Bas, *Columbæ*, p. 78, "Luzon."

Hab. Luzon and Guimaras (*Meyer*); Negros (*L. C. Layard*).

The sexes do not differ. Examples from all three localities are undistinguishable.

Tr. Z. S. ix. p. 215.

Carpophaga, Selby.

141. Carpophaga ænea.

Palumbus moluccensis, Briss. Orn. i. p. 148, no. 41, "ex Moluccis insulis" (1760).

Columba ænea, Linn. S. N. i. p. 283, no. 22 (1776), ex Briss.

Pigeon Ramier des Moluques, D'Aubent. Pl. Enl. 164.

Columba moluccensis, L. S. Müller, Suppl. p. 133, no. 35 *d* (1776), ex D'Aubent.

Columba sylvatica, Tickell, J. A. S. B. 1833, p. 581, "Jungles of Borabhúm & Dholbhúm."

Carpophaga pusilla, Blyth, J. A. S. B. 1849, p. 816, "Nilgiris" *errore.*

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† [*Anteà*, p. 121.—Ed.]

Carpophaga chalybura, Bp. Compt. Rend. xxxix. p. 1074, "Philippines" (1854); Consp. ii. p. 32; Iconogr. pl. 42.

Carpophaga sylvatica "(Tickell)," Blyth, J. A. S. B. 1861, p. 97, "Philippines."

Hab. Luzon, January, April; Negros, March (*Meyer*).

Examples from Ceylon, India, Burma, the Andamans, and Java cannot be specifically separated from this Philippine species. Mr. Blyth has already remarked (*l. c.*) that a young Philippine example before him did not differ from the Indian and Burmese species. The Sumatran, Bangkan, Sumbawan, and Flores forms are also considered to belong to *C. ænea* by Professor Schlegel (Mus. Pays-Bas, *Columbæ*, p. 85), although he keeps *C. sylvatica* apart as being a smaller race. And Mr. Wallace (Ibis, 1865, p. 383) includes Lombock and the Malay peninsula within the range of *C. ænea.*

Bonaparte (*l. c.*) relied on the Philippine bird having the head and neck whiter, and on the under surface of the tail being paler and of a steel-grey, and not brown-black. The under surface of the rectrices is certainly somewhat paler; but the difference between the colouring of the head and neck, as described by Bonaparte, is not apparent in Dr. Meyer's examples, which are in perfect plumage. The chief difference they exhibit is in the colouring of the breast, which appears to be more tinged with vinous; and thus the entire under surface is more or less vinous, and not the abdomen only as in *C. ænea.* On the head, nape, and back of the neck also the rather deep vinous shading of *C. ænea* is absent. Bonaparte's plate (*l. c.*) so little resembles these Philippine examples that it cannot be relied on.

Carpophaga pickeringi, Cassin, Pr. Ac. Philad. vii. p. 228 (1854), and U.S. Expl. Exped. pl. 27, 2nd ed., obtained on Mangsi Island, one of the Sooloo archipelago, seems to be a distinct species, with light-cinereous under tail-coverts, and consequently related to *C. perspicillata.*

Carpophaga paulina (Temm.), ex Celebes, is always readily to be distinguished by its intensely vinous breast, and by its bright rufous nape. Yet an intermediate form is said to also occur in Luzon (*cf.* Schlegel, Nederl. Tijdschr. Dierk. 1866, p. 201; Mus. Pays-Bas, *Columbæ*, p. 85)—the Philippine habitat, however, only resting on a single example, said to have been obtained in Luzon by M. H. Gevers.

Carpophaga insularis, Blyth, apparently peculiar to the Nicobars, is a perfectly distinct Tr. Z. S. ix. p. 216.
species, allied to *C. perspicillata.*

The following measurements are taken (the Luzon male excepted) from examples in full plumage:—

			Longitudo		
		rostr.	alæ.	caudæ.	
C. ænea		0·64	9·00	6·00	Java.
,,		0·64	9·12	6·62	Sarawak.
,,	♀	0·64	9·25	6·50	Busan, N. Borneo.
,,		0·64	9·25	6·37	Tonghoo, Burma.
,,		0·64	9·12	6·25	Maunbhoom.
,,	♀	0·64	9·25	6·25	Kyodan, Salween river.
,,		0·60	8·25	5·62	Malabar.
,,	♂	0·60	8·25	5·62	Dambool, Ceylon.

		Longitudo		
	rostr.	alæ.	caudæ.	
C. ænea	0·60	8·25	5·75	Cocarry, Ceylon.
„	0·55	8·00	5·62	Ceylon.
C. chalybura ♂	0·64	9·50	6·25	Luzon.
„ ♀	0·64	9·25	6·12	„
„ ♀	0·60	9·12	6·00	„
„ ♂	0·64	9·64	6·75	Negros.

Carpophaga perspicillata (Temm.), Pl. Col. 246, was described from the Philippines and the Moluccas. Professor Schlegel (Nederl. Tijdschr. Dierk. 1866, p. 195) doubts the correctness of the Philippine habitat, and confines the range to the Halmaheira group of islands and the island of Bouru. The allied form, *Carpophaga neglecta*, Schl., *l. c.*, occurs also in Ceram, Amboyna, and the island of Boano.

Ptilocolpa, Bonaparte.

142. * Ptilocolpa griseipectus.

Carpophaga pectoralis, G. R. Gray, List Birds Brit. Mus. iii. *Gallinæ*, p. 7, adult, "Philippines" (1844), *descr. nulla*; nec Wagler, Isis, 1829, p. 740.

Carpophaga griseopectus, G. R. Gray, in Mus. Brit. (1854); List Birds Brit. Mus. *Columbæ*, p. 22, no. 24, "Philippines" (1856); v. Martens, J. f. O. 1866, p. 24, no. 129.

Ptilocolpa griseopectus (G. R. Gray), Bp. Compt. Rend. xxxix. p. 1075, "ins. Philipp." (1854), *descr. princeps*; Consp. ii. p. 34 (1857); Iconogr. Pig. pl. 51; G. R. Gray, Hand-list, no. 9226; Wallace, Ibis, 1865, p. 385.

Carpophaga pectoralis, G. R. Gray, Hartl. J. f. O. 1855, p. 98, "Philippines."

Ptilocolpa carola, Bp. Compt. Rend. *l. c.* (*juv.*), "ins. Philipp." (1854).

Carpophaga carola (Bp.), G. R. Gray, *l. c.* no. 25; Hand-list, no. 9227; Wallace, *l. c.*; v. Martens, *l. c.* no. 130.

Hab. Philippines (*Cuming*); Luzon (*Gevers*).

The range of this Pigeon within the Philippines, to which archipelago it appears restricted, has yet to be ascertained.

Tr. Z. S. ix. p. 217.

Myristicivora, Reichenbach.

143. Myristicivora bicolor.

Le Pigeon blanc mangeur de Muscade de la Nouvelle Guinée, Sonnerat, Voy. Nouv. Guin. p. 169, pl. 103.

Columba bicolor, Scopoli [†], Del. Fl. Faun. Insubr. ii. p. 94, no. 97 (1786), ex Sonn.; Cassin, Un. St. Expl. Exped. 2nd ed. p. 265, pl. 28, ♂ adult.

Columba alba, Gm. S. N. i. p. 780, no. 53 (1788), ex Sonn.

Columba littoralis, Temm. & Knip, Pig. i. pt. 2, p. 15, pl. 7, "Java, New Guinea" (1811); Pig. et Gallin. i. pp. 99, 448 (1813).

[†] *Conf.* Cassin (*l. c.*) on Scopoli's title.

Carpophaga casta, Peale, Un. St. Expl. Exped. 1st ed. Zool. p. 204, "Sooloo Islands" (1848); Hartlaub, Archiv f. Naturgesch. xiii. Jahrgang, i. p. 116.

Hab. Negros, March (*Meyer*).

The example above referred to, a male (*fide* Meyer), in no way differs from an authentic New-Guinea individual. It possesses fourteen rectrices. Several examples collected near Malacca by Mr. Maingay† are also not to be distinguished, and all possess fourteen rectrices. A large series of this species, as well as of *M. luctuosa*, was sent from Celebes by Dr. Meyer; but unfortunately no exact localities were given. This Pigeon appears to extend from the Andamans and Java to New Guinea, timing its migrations according to the ripening of the various fruits it feeds on‡.

HEMIPHAGA, Bonaparte.

144. * HEMIPHAGA POLIOCEPHALA.

Carpophaga poliocephala, G. R. Gray, List Birds Brit. Mus. *Gallinæ*, iii. p. 6, "Philippines" (1844), *descr. nulla*; Gray & Mitch. Genera, ii. p. 469, pl. 119; List Birds Brit. Mus. *Columbæ*, p. 22, no. 22 (1856); Hand-list, no. 9223; Hartl. J. f. O. 1855, p. 97 (*descr. princeps*); Schlegel, Mus. Pays-Bas, *Columbæ*, p. 92.

Hemiphaga poliocephala (G. R. Gray), Bp. Compt. Rend. xxxix. p. 1077 (1854); Consp. ii. p. 39 (1857).

Hab. Philippines (*Cuming*); Luzon (*Hartlaub*, *Gevers*).

This Pigeon is a representative form of *H. forsteni*, ex Celebes.

COLUMBIDÆ.

Tr. Z. S. ix. p. 218.

IANTHŒNAS, Reichenbach.

145. * IANTHŒNAS GRISEOGULARIS.

Ianthœnas griseogularis, Walden & Layard, Ibis, 1872, p. 104, pl. 6, "Guimaras" (April, 1872). [*Anteà*, p. 121.]

Carpophaga metallica, var., Schlegel, Nederl. Tijdschr. Dierk. 1866, p. 202, "Luzon."

Janthœnas luzoniensis, Schlegel, Mus. Pays-Bas, *Columbæ*, p. 75, "Luzon" (March, 1873).

Hab. Guimaras (*Meyer*); Luzon (*Gevers*).

Discriminated, described, figured, and named for the first time in 1872 by the two English authors above cited, from an individual obtained in the island of Guimaras. Professor Schlegel in 1873 (*l. c.*) again named it, and quoted its original title as a synonym. As the species is not confined to the island of Luzon, the last title is also misleading.

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† Mr. Maingay, in his MS. notes on this species, states that it is never found on the mainland of the Malaccan peninsula. It arrives at the Water Islands, nine miles from Malacca, about the beginning or middle of July, is abundant towards the latter end of August, and departs towards the end of September. Captain Pinwill observed a flock pass over Pinang in July, but adds that they are not found on that island.

‡ On the range of *M. bicolor*, cf. Schlegel, Nederl. Tijdschr. iii. p. 205.

MACROPYGIA, Swainson.

146. * MACROPYGIA TENUIROSTRIS.

Macropygia tenuirostris, G. R. Gray, List Birds Brit. Mus. *Columbæ*, p. 39, "Philippines," *descr. nulla* (1856); Bp. Consp. ii. p. 57, "Philippines" (1857).

Columba phasianella, Temm. Pl. Col. 100, "Manilla," nec Temm. Tr. Linn. Soc. xiii. p. 129.

Hab. Luzon, Negros (*Meyer*).

This species belongs to the same section as *M. phasianella* (Temm.) and *M. emiliana*, Bp.

In Negros † Dr. Meyer obtained a single example of a *Macropygia* which differs from the Luzon species in having the back and uropygium dark brown without a trace of rufous, in the shoulder-coverts being uniform brown, not edged with rufous, in the upper surface of the middle pair of rectrices being brown like the back, and in having a black band traversing the whole breadth of the second and third outer pair of rectrices (the first pair are wanting). This individual is stated on the label to be a male, while the Luzon example with which the above comparison is made is marked a female. The differences observable may therefore be sexual.

M. tenuirostris is stated by Professor Schlegel (Mus. Pays-Bas, *Columbæ*, p. 109) to belong to the Javan and Lombock species, *M. emiliana*, Bp.,—an opinion in which I regret I cannot concur. Besides being considerably smaller, *M. emiliana* has the upper plumage of a much lighter and clearer rufous, and the upper surface of the rectrices are pure light rufous, and not brown.

TURTUR, Selby.

147. * TURTUR DUSSUMIERI.

Columba dussumieri, Temm. Pl. Col. 188, "Luçon" (1823).

Hab. Luzon and Negros (*Meyer*).

Tr. Z. S. ix. p. 219. Otherwise closely allied to *T. bitorquata* (Temm.), this Luzon Dove differs in having not merely the crown, but the whole of the head, nape, cheeks, and sides of the throat ash-grey, in the nuchal band being formed of pale grey feathers margined with iron-grey, in wanting the pure white collar, in the bill being much weaker and shorter, and in the white terminal bands on the lateral rectrices being much narrowor.

Two Luzon examples are respectively marked male and female by Dr. Meyer, and do not differ. A third Luzon individual, marked a female by Dr. Meyer, has the head the same colour as the back, the feathers of the nuchal band smaller and almost entirely iron-grey or black, bordered below by a bright ferruginous zone. It is probably an immature bird. The example from Negros is identical with those from Luzon.

Professor Schlegel (Mus. Pays-Bas, *Columbæ*, p. 120) says that *T. dussumieri* has been wrongly indicated as inhabiting the Indian continent and Malacca, and further observes that Mr. G. R. Gray gives its habitat as Luzon, while it in reality probably inhabits the Mariannes. The species certainly does not occur either on the Asiatic continent or in the Sunda Islands, but does inhabit the Philippines, whence the type described by Temminck originated. *T. gaimardi*, Bp. Consp. ii. p. 66, with which Professor Schlegel associates *T. dussumieri*, was described from

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† [*M. eurycerca*, Tweeddale, P. Z. S. 1878, p. 288.—ED.]

Marianne specimens obtained by Quoy and Gaimard, and placed by them in the Paris Museum in 1811. The Prince, in his diagnosis, distinguished this Marianne Dove from *T. dussumieri*, the habitat of which, however, he erroneously gave as being Malasia, Java, Sumatra, and Borneo.

148. Turtur humilis.

Columba humilis, Temm. Pl. Col. pl. 259, ♂ nec ♀, 258, ♀ nec ♂, "Bengale, île de Luçon" (1824); Bp. Consp. ii. p. 66, ♀, "Philippines;" Swinhoe, P. Z. S. 1871, p. 367, no. 473.

Hab. Luzon (*Meyer*); S. China to Shanghai, Formosa, Hainan (*Swinhoe*).

The red Turtledove of Luzon differs from that of India (*T. humilis*, ap. Jerd., no. 797) in being of a much-darker red, and in having the under wing-coverts dark ash instead of pale ash inclining to white, and the head, uropygium, and upper tail-coverts much darker ash. The form which inhabits China and Cambodia belongs to the Luzon, and not to the Indian race.

The Indian bird will have to take the title of *Turtur tranquebarica*, Herm. Obs. Zool. p. 200, "ex Tranquebaria" (1804), while for that of Luzon it will perhaps be best to retain Temminck's title, although he does not make it quite clear whether he described and figured a Bengal or a Philippine individual. In 1855 Prince Bonaparte (Compt. Rend. xl. p. 18) maintained that individuals from Coromandel and the Philippines were absolutely identical. But later, 1856, after his visit to the British Museum, the same author observed (*op. cit.* xli. p. 659), "*Turtur muroensis*, Hodgs., de l'Inde" [*T. humilis* of Indian authors], "pouvait fort bien différer spécifiquement de *Streptopelia humilis* des Philippines."

Dr. Meyer notes the colour of the feet and nails as being grey, and of the bill as slate-colour. Tr. Z. S. ix. p. 220.

La Tourterelle cendrée de l'isle du Luçon, Sonn. Voy. Nouv. Guin. p. 52, pl. 22.

Columba cinerea, Scop. Del. Fl. Faun. Insubr. ii. p. 94, no. 93 (1786), ex Sonn.; nec. Scop. ap. Bp. Consp. ii. p. 61.

Turtur luzoniensis, Gm. S. N. i. p. 786, no. 32, *Turtur*, var. δ (1788), ex Sonn.

Columba phœnicorhyncha, Wagler, Isis, 1829, p. 745, ex Sonn.

Under the title above cited Sonnerat described a species of Turtledove which, he stated, inhabits the island of Luzon, and mentions no other locality. I can find no evidence of any species agreeing with Sonnerat's description having been found in the Philippines since Sonnerat wrote. The diagnosis agrees fairly with *Columba picturata*, Temm., from which bird Sonnerat probably took his description.

Bonaparte (*l. c.*) confounded two, if not three, distinct species of the genus *Turtur* described by Sonnerat, under Scopoli's title of *Columba cinerea*. The description given by Bonaparte (*l. c.*) is of *Columba miniata*, Temm. Pig. & Gall. i. pp. 369, 460, founded on Sonnerat's *Grande Tourterelle de la Chine*, Voy. aux Indes, ii. p. 178. In his reference to Sonnerat the Prince commits three mistakes. He quotes page 176, where Sonnerat describes his *Tourterelle grise de la Chine*, on which Scopoli founded his *Columba chinensis*; and he adds plate 22—the number of Sonnerat's plate (in the 'Voyage à la Nouvelle Guinée') which represents *Columba cinerea*, Scopoli †. There is no plate numbered 22 in the second volume of the 'Voyage aux Indes.'

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† Prince Bonaparte (*l. c.*) also misquotes Vieillot; for he refers to N. Dict. xxvi. p. 312; whereas *C. miniata*, Temm., occurs at p. 368, and *Columba cinerea* is treated by Vieillot as a separate species at p. 381, although partly misquoting Sonnerat's French title.

Having thus confounded the two species, the Prince adds China as a habitat of *Columba cinerea.* Previously the Prince had stated (Compt. Rend. xl. p. 16) that he considered *C. miniata*, Temm., $=$*C. cinerea*, Scop. It is difficult to decide from what species Sonnerat described his *Grande Tourterelle de la Chine.* On reading Temminck's diagnosis (*l. c.*) of *Columba miniata* it is obvious that he copied from Sonnerat. Together with its size (Sonnerat says that it is as large as a Wood-Pigeon), the colouring described is inconsistent with any known Chinese species of Dove.

La Tourterelle brune de la Chine, Sonn. Voy. aux Indes, ii. p. 177, on which Latham founded his *Columba orientalis* (Ind. Orn. ii. p. 606), is *Turtur gelastes*, Temm. & Schlegel.

Mr. Blyth (Ibis, 1870, p. 173) mentions having observed in the Leyden Museum a Dove labelled *Columba turtur*, from the Philippines, "like *T. auritus*, but darker, the black predominating on the upper parts; lower tail-coverts white." Can this be *Columba cinerea*?

Tr. Z. S. ix. p. 221.

GOURIDÆ.

PHLOGŒNAS, Reichenbach.

149. * PHLOGŒNAS LUZONICA.

La Tourterelle grise ensanglantée de l'isle de Luçon, Sonnerat, Voy. N. Guin. p. 52, pl. 21, "Luçon" (1776).

Columba luzonica, Scop. Del. Fl. Faun. Insubr. ii. p. 94, no. 92 (1786), ex Sonn.

Columba cruenta, Gm. S. N. i. p. 785, no. 66 (1788), ex Sonn.; Knip, Colomb. et Gall. p. 16, pl. 8; Gould, B. of As. pl. —.

Var. ALBINA.

La Tourterelle blanche ensanglantée de l'isle de Luçon, Sonn. *op. cit.* p. 51, pl. 20, "Luçon."

Columba nivea, Scop. *op. cit.* p. 94, no. 91 (1786), ex Sonn.

Columba sanguinea, Gm. *op. cit.* p. 785, no. 65, ex Sonn.; Knip, *op. cit.* p. 17, pl. 9.

Hab. Luzon (*Meyer*); Calamine Island (*Buzeta*).

CHALCOPHAPS, Gould.

150. CHALCOPHAPS INDICA.

The Green-winged Dove, Edwards, Nat. Hist. i. pl. 14, "East Indies."

Columba indica, Linn. S. N. i. p. 284 (1766), ex Edwards; Schlegel, Nederl. Tijdschr Dierk. 1866, p. 265.

Tourterelle de Java, D'Aubent. Pl. Enl. 177†.

Le Turvert, no. 3, Buffon, Hist. Nat. ii. p. 556, "Java."

Columba javanensis, L. S. Müller, Suppl. p. 133 (1776), ex D'Aubenton.

Columba javanica, Gm. S. N. i. p. 781, no. 55 (1788), ex Buffon.

? *Palumbus amboinensis*, Brisson, Orn. i. p. 150, no. 42, "ex Amboinensi Ins.," *descr. orig.*

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† Buffon (*l. c.*), through a misprint, quotes Pl. Enl. 117.

? *Columba cyaneopileata*, Bonnaterre, Tabl. Enc. Méthod. i. p. 238 (1823), ex Brisson.

? *Chalcophaps moluccensis*, G. R. Gray, P. Z. S. 1860, p. 361, ♀, "Amboyna and Batchian."

Le Pigeon vert à tête grise d'Antique, Sonnerat, Voy. Nouv. Guin. p. 112, pl. 66, "Panay."

Columba pileata, Scop. Del. Fl. Faun. Insubr. ii. p. 94, no. 96 (1786), ex Sonn.

Columba albicapilla, Gm. S. N. i. p. 775, no. 8 (1788), ex Sonn.

Columba griseocapillata, Bonnat. *tom. cit.* p. 238 (1823), ex Sonn.

Columba superciliaris, Wagler, Syst. Av. p. 256 (1827), ex Edwards.

Monornis perpulchra, Hodgs., Gray's Zool. Misc. 1844, p. 85, "Nipaul."

Calcophaps bornensis, Müller, Bp. Compt. Rend. xi. p. 208 (1855); *op. cit.* lxiii. p. 947 (1856).

Calcophaps formosana, Swinhoe, Ibis, 1865, p. 357, ♂, p. 540, ♀, "Formosa."

Hab. Luzon, Negros (*Meyer*).

Examples obtained in the above-mentioned Philippine Islands in no essential respect, either of dimensions or plumage, differ from Ceylonese, Indian, Burmese, Andaman, Malaccan, Javan, Bornean, Celebean, and Formosan individuals. I have therefore united all the titles founded on Tr. Z. S. ix. examples from those localities under the Linnæan designation.

In deference to the opinion of Mr. Wallace (Ibis, 1865, p. 393), I have excluded *C. moluccensis*, G. R. Gray, although Professor Schlegel (*l. c.*) does not admit its distinctness. A Ceram example of a female in my collection certainly does differ from all others within the range of *C. indica*, as stated above, in having the rump earthy brown, with the cross bars dark brown, without a trace of grey. If, however, the Moluccan species proves to be distinct, it will have to take the title of *C. cyaneopileata*, Bonn. *l. s. c.*

C. timorensis, Bp. (*javanicoides*, Temm. Mus. Lugd.) *op. cit.* lxiii. p. 948, is an excellent species, wing 6·25, but is doubtfully separable from *C. chrysochlora*, Wagl. *l. c.*, ex Australia.

C. augusta, Bp. *op. cit.* 1855, p. 209, described from an example of unknown origin, has not as yet been identified. Professor Schlegel (*l. c.*) states that it is based on *C. indica* in transition-plumage; but the diagnosis is undoubtedly that of an adult male. The Prince suggests that *C. augusta* may be the same as the Nicobar form of *C. indica* described by Mr. Blyth (J. A. S. B. 1846, p. 371), and treated by him as a variety of *C. indica* (Cat. Calc. Mus. p. 238, no. 440)*.

The titles *Columba cyanocephala*, Gm. *tom. cit.* p. 781, no. 56, nec no. 20, and *C. cæruleocephala*, Lath. Ind. Orn. ii. p. 610, no. 61, both founded on Latham's *Blue-crowned Turtle*, Synop. iv. p. 655, no. 52, cannot be allotted, Latham's description being too vague, and no species of *Chalcophaps* having been discovered in China north of the island of Hainan.

Le Pigeon violet à tête rouge d'Antique, Sonn. Voy. Nouv. Guin. p. 112, pl. 67.

Columba pulcherrima, Scop. Del. Fl. Faun. Insubr. ii. p. 94, no. 98 (1786), ex Sonn.

Columba rubricapilla, Gm. S. N. i. p. 784, no. 62 (1788), ex Sonn.

This bird is now known to be confined to the Seychelles.

* *Conf.* Blyth, Ibis, 1868, p. 133. The Nicobar race appears to me undistinguishable.

CALŒNAS, G. R. Gray.

151. CALŒNAS NICOBARICA.

The Nincombar Pigeon, Albin, Nat. Hist. Birds, iii. p. 44, pls. 47, 48, "Islands of Nincombar near Pegu" (1740).

Columba nicobarica, Linn. S. N. i. p. 283, no. 27 (1766), ex Albin; Cassin, Un. St. Expl. Exped. p. 276.

Hab. Philippine Islands (*Peale*).

Seen by Peale in the Philippine Islands, but afterwards in greater abundance at the island of Mangsi. The same author states that the habits of this Pigeon, as observed on that island, were *decidedly arboreal.*

Tr. Z. S. ix. p. 223.

GEOPELIA, Swainson.

152. GEOPELIA STRIATA.

Columba striata, Linn. S. N. i. p. 282 (1766); v. Martens, J. f. O. 1866, p. 24, no. 136.

Observed by Dr. v. Martens in the collection of the Military Library at Manilla.

GALLINÆ.

PHASIANIDÆ.

GALLUS, Linnæus.

153. GALLUS BANKIVA.

Gallus bankiva, Temm. Pig. et Gallin. ii. p. 87, "Java" (1813).

Hab. Luzon, Guimaras (*Meyer*).

These Philippine examples agree with Malaccan.

TETRAONIDÆ.

PERDICINÆ.

ARBOROPHILA, Hodgson.

154. * ARBOROPHILA —— sp.?

? *Le perdrix de Gingi*, Sonn. Voy. aux Indes, ii. p. 167.

? *Tetrao gingicus*, Gm. S. N. i. p. 760, no. 41 (1788), ex Sonn.; Temminck, Pig. et Gallin. iii. pp. 410, 733, "India, Coromandelia;" Blyth, Ibis, 1870, p. 174, "Philippines?"

Arboricola, sp., v. Martens, J. f. O. 1866, p. 25, no. 142, "Philippines."

A Philippine species of *Arborophila* is described by Dr. v. Martens (*l. c.*) from an example he observed in the Military Library at Manilla. Temminck (*l. c.*) described, from an example in his cabinet, the male of what he identified as the *Perdix gingica*, Lath. This specific title, which Latham only copied from Gmelin, was founded by the latter author on Sonnerat's species (*l. c.*).

Sonnerat having named the bird *Perdrix de Gingi*, it was inferred by Temminck that the species inhabited the Coromandel coast. But it is pretty well ascertained that no such species is known in India, or, indeed, in any part of continental Asia, nor has it been discovered in Ceylon, or in any of the Malay Islands. Hence it may be presumed (also the surmise of Mr. Blyth, *l. c.*) that Sonnerat's Partridge was obtained in the Philippines and not in Coromandel. The description given by Dr. v. Martens (*l. c.*) is too short to enable us to identify the examples he saw with the species fully described both by Sonnerat and Temminck. In one particular his description materially differs; for Dr. v. Martens describes the head as being green-black, whereas Sonnerat says that in his bird the top of the head is dark brown, and Temminck calls it maroon-brown. The example similar to his own, which Temminck (*l. c.*) mentions as being preserved in the British Museum, seems to be no longer extant. Dr. v. Martens thus describes the example alluded to by him:—"Head green-black; breast wine-red, streaked with black; sides pale red, spotted with black." For full description of the example in the Leyden Museum, *cf.* Blyth, *l. c.*

Tr. Z. S. ix. p. 224.

EXCALFACTORIA, Bonaparte.

155. EXCALFACTORIA CHINENSIS.

Chinese Quail, Edwards, Illustr. v. p. 77, pl. 247, ♂, "China."

Tetrao chinensis, Linn. S. N. i. p. 277, no. 19 (1766), ex Edwards; v. Martens, J. f. O. 1866, p. 25, no. 143.

Le Caille des Philippines, Brisson, Orn. i. p. 254, no. 17, pl. 25. f. 1, "Philippines."

La petite Caille de l'isle de Luçon, Sonn. Voy. Nouv. Guin. p. 54, pl. 24, ♀, "Luçon."

Oriolus lineatus, Scop. Del. Fl. Faun. Insubr. ii. p. 87, no. 34 (1786), ex Sonn.

Tetrao manillensis, Gm. S. N. i. p. 764, no. 57 (1788), ex Sonn.

Coturnix excalfactoria, Temm. Pig. et Gallin. iii. pp. 516, 742 (1815).

Coturnix flavipes, Blyth, J. A. S. B. 1842, p. 808, ♀, "Bengal."

Hab. Philippines (*Jagor*).

Brisson described from a Philippine example sent to M. Aubrey. He states that the Philippine form is smaller than the one which inhabits China, and that Chinese examples have the breast spotted with black. It is not improbable that the Philippine species may prove to belong to the Celebean form, *E. minima*, Gould, in which case both will have to assume the title of *lineata*, Scop.

TURNICIDÆ.

TURNIX, Bonnaterre.

156. *TURNIX OCELLATA.

Caille de l'isle de Luçon, Sonn. Voy. Nouv. Guin. p. 54, pl. 23.

Oriolus ocellatus, Scopoli, Del. Fl. Faun. Insubr. ii. p. 88, no. 35 (1786), ex Sonn.; Blyth, J. A. S. B. 1861, p. 97.

Tetrao luzoniensis, Gm. S. N. i. p. 767, no. 61 (1788), ex Sonn.

Hemipodius thoracicus, Temm. Pig. et Gall. iii. pp. 622, 755, "Luzonia" (1815).

Ortygis ocellata, Meyen, Nov. Act. Ac. C. L. C. Nat. Cur. xvi. suppl. prim. p. 101, pl. 17, "South Peru, from 10-12000 feet above the sea"! *errore* (1834); v. Martens, J. f. O. 1866, p. 26, no. 144; G. R. Gray, Hand-list, no. 9912.

Hab. Philippines (*Blyth*, *l. c.*).

Tr. Z. S. ix. p. 225. *Hemipodius fasciatus*, Temm. Pig. et Gallin. iii. pp. 634, 757, "Philippines" (1815), was described from a single example, stated on its label to be from the Philippines. Later Temminck (Receuil d'Ois. 10e livr. 1823), in his monographic sketch of the genus *Hemipodius*, omitted this title altogether, but added to the Javan habitat of his *H. pugnax*, as first described (Pig. et Gall.), that of the Philippines as well as Sumatra. Beyond this there seems to be no evidence of a second species of *Turnix* inhabiting the Philippines; and it may be taken that *H. fasciatus*† is the same species as *H. pugnax*.

ROLLULIDÆ.

Rollulus, Bonnaterre.

157. *Rollulus —— sp.

Cryptonyx, sp., v. Martens, J. f. O. 1866, p. 25, no. 141.

"Above red-brown; underneath black. No crest, nor nail on the hallux." Dr. v. Martens thus describes a bird of this genus he observed in the collection of the Military Library at Manilla.

MEGAPODIIDÆ.

Megapodius, Quoy et Gaimard.

158. Megapodius cumingi.

Megapodius ruficeps, Temm., G. R. Gray (*lapsu cal.*), List of Birds Brit. Mus. *Gallinæ*, p. 21, "Manilla" (1844), nec Temm.

Megapodius cumingii, Dillwyn, P. Z. S. 1851, p. 118, pl. 39, "Labuan, Philippines;" G. R. Gray, P. Z. S. 1861, p. 290, no. 11; v. Martens, J. f. O. 1866, p. 26.

Described from Labuan individuals, and identified by Mr. Dillwyn as identical with the species obtained in the Philippines by Mr. Cuming. A recomparison is, however, desirable.

A species of Bustard, described and figured by Sonnerat under the title of *le Paon sauvage de l'isle de Luçon* (Voy. Nouv. Guin. p. 85, pl. 49), and said by him to occur also at the Cape of Good Hope, is clearly not a Philippine species. It, however, is a well-known South-African Bustard, of which the following is the synonymy:—

Charadrius cristatus, Scop. Del. Fl. Faun. Insub. ii. p. 93, no. 82 (1788), ex Sonn.; Schlegel, Mus. Pays-Bas, *Cursores*, p. 8; G. R. Gray, Hand-list, no. 9919.

Otis kori, Burchell, Tr. S. Africa, i. p. 393, (vignette) p. 402 (1822); Rüppell, Mus. Senckenb. ii. p. 213, pl. 13; Temm. Recueil d'Ois. 102e livr., add. genre *Outarde*.

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† [A good species! *vide* Tweeddale, P. Z. S. 1877, p. 701.—Ed.]

Otis luçoniensis, Vieillot, Tabl. Enc. Méthod. Ornith. i. p. 332 (1823), ex Sonn.

Otis arabs, Linn., var. A, Latham, Gen. Hist. viii. p. 355 (1823), ex Sonn.

? *Vanellus*, sp., v. Martens, J. f. O. 1866, p. 26.

Tr. Z. S. ix. p. 226.

Gmelin appears to have overlooked Sonnerat's description and plate. Latham (Ind. Orn. ii. p. 659, no. 4) identified Sonnerat's species with *Otis arabs*, Linn., but subsequently (Gen. Hist. *l. c.*) treated it as a separate variety of that species. Vieillot (N. Dict. xxiv. p. 294) adopted Latham's original view, but later (*l. c.*) regarded Sonnerat's Bustard as a distinct Philippine species, and gave it the title above cited. Temminck was the first to point out (Recueil d'Ois. 90^{e} livr.) that Sonnerat's *Paon sauvage* belonged to a species distinct from *Otis arabs*; and on the subsequent discovery of *Otis kori* by Burchell, Temminck at once (*l. c.*) identified it with Sonnerat's species, Rüppell (*tom. cit.* p. 218) having in the mean time united Sonnerat's Bustard to the Indian *Otis nigriceps*. Professor Schlegel and the majority of recent authors have adopted Temminck's view. Dr. v. Martens, however (*l. c.*), classes Sonnerat's bird as a Plover, and remarks, "Diesen Kibitz finde ich nirgends citirt."

GRALLÆ.

CHARADRIIDÆ.

CHARADRIINÆ.

CHARADRIUS, Linnæus.

159. CHARADRIUS FULVUS.

Fulvous Plover, Lath. Gen. Synop. iii. p. 211, no. 17, "Otaheite."

Charadrius fulvus, Gm. S. N. i. p. 687, no. 18 (1788), ex Latham; Finsch & Hartl. Orn. Centr.-Polyn. p. 188; Sharpe & Dresser, Birds of Europe, pt. ix. pl. —; Walden & Layard, Ibis, 1872, p. 105 †.

Charadrius pluvialis, Linn., ap. v. Kittlitz, Lütke, Voy. (Postels), iii. p. 327, "Manilla."

Charadrius longipes, Temm., v. Martens, J. f. O. 1866, p. 27, no. 147, "Luzon."

Hab. Luzon, February; ♀, bill black, legs bluish grey (*Meyer*); Negros (*L. C. Layard*).

In winter plumage.

SQUATAROLA, Cuvier.

160. SQUATAROLA HELVETICA.

Vanellus helveticus, Briss. Orn. v. p. 106, no. 4, "Helvetia."

Tringa subtridactyla, Hasselquist, Iter Palæstinum, p. 397, no. 28 (1757); Reise nach Palästina (Gadebusch, German tr.), p. 307, no. 28 (1762).

Charadrius helveticus, Linn. S. N. i. p. 250, no. 12 (1766), ex Brisson; Walden & Layard, Ibis, 1872, p. 105†.

Hab. Cujo, December (*Meyer*); Negros, March (*L. C. Layard*).

In winter plumage.

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† [*Anteà*, p. 122.—ED.]

Tr. Z. S. ix. p. 227.

ÆGIALITIS, Boie.

161. ÆGIALITIS GEOFFROYI.

Charadrius geoffroyi, Wagler, Syst. Av. p. 61, no. 19, "Pondicherry, Java" (1827); Harting, Ibis, 1870, p. 378, pl. 11.

Stated by Mr. Harting (*l. c.*), on Cuming's authority, to inhabit the Philippines.

162. ÆGIALITIS DUBIA.

Le petit Pluvier à collier de Luçon, Sonn. Voy. Nouv. Guin. p. 84, pl. 46, "Luçon."

Charadrius dubius, Scopoli, Del. Fl. Faun. Insubr. ii. p. 93, no. 81 (1786), ex Sonn.; Walden, Tr. Zool. Soc. viii. p. 89.

Charadrius alexandrinus, Hasselq., var. δ, Gm. S. N. i. p. 684, no. 2, ex Sonn.

Charadrius philippinus, Latham, Ind. Orn. ii. p. 745, no. 11 (1790), ex Sonn.

Charadrius curonicus, Beseke, =*minor*, Meyer, v. Martens, J. f. O. 1866, p. 26, no. 146.

Philippine examples have still to be compared with the *Æ. minutus* (Pall.), ap. Jerdon, of India.

Von Heuglin, in his great work (Ornithologie Nordostafrikas, p. 1029, no. 753), identifies Sonnerat's *petit Pluvier de l'isle de Luçon* with *C. curonicus*, but with doubt adopts as synonyms *C. dubius*, Scop., and *C. philippinus*, Lath., titles founded on Sonnerat's description and plate.

163. ÆGIALITIS MONGOLICA.

Charadrius mongolus, Pallas, Reisen Russischen Reichs, iii. p. 700, no. 29, "Mongolia" (1776); Harting, Ibis, 1870, p. 384; Schlegel, Mus. Pays-Bas, *Cursores*, p. 41.

Hab. Philippines (*Cuming*).

ŒDICNEMINÆ.

ESACUS, Lesson.

164. ESACUS MAGNIROSTRIS.

Œdicnemus magnirostris, Geoffroy St.-Hilaire, Vieill. N. Dict. xxiii. p. 231 (1818), nec Latham; Cassin, Un. St. Expl. Exped. p. 329; Walden, Tr. Zool. Soc. viii. p. 91. [*Anteà*, p. 190.]

Hab. Common in the Philippine and Sooloo Islands (*Peale*).

Tr. Z. S. ix. p. 228.

HIMANTOPODINÆ.

HIMANTOPUS, Brisson.

165. HIMANTOPUS AUTUMNALIS.

Charadrius autumnalis †, Hasselq., Iter Palæstinum, p. 253, no. 29 (1757); Reise nach Palästina (Gadebusch, Germ. Trans.), p. 308, no. 29, "Egypt, in October" (1762).

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† I adopt Hasselquist's title for this species because I believe it was republished in the English translation (Voy. Travels in the Levant, 1766), and in the French translation by Eidous (Voyage dans le Levant, 1769), as well as having been published by Linnæus as a synonym in his twelfth edition of the 'Systema.'

Himantopus rufipes, Bechst., v. Martens, J. f. O. 1866, p. 28, no. 160.

Hab. Luzon (*Jagor*).

A Luzon example is thus identified by Dr. v. Martens (*l. c.*).

166. Himantopus leucocephalus.

Himantopus leucocephalus, Gould, P. Z. S. 1837, "Australia, Java, Sumatra;" Walden, Tr. Zool. Soc. viii. p. 91 [*anteà*, p. 191]; v. Martens, J. f. O. 1866, p. 28, no 161.

Hab. Mindanao (*Cuming*).

GLAREOLIDÆ.

Glareolinæ.

Glareola, Brisson.

167. Glareola orientalis.

Glareola orientalis, Leach, Tr. Linn. Soc. xiii. p. 132, pl. xiii. figs. 1, 2, "Java" (1820); Walden & Layard, Ibis, 1872, p. 105, "Negros." [*Anteà*, p. 121.]

Hab. Negros (*L. C. Layard*).

GALLINULIDÆ.

Porphyrioninæ.

Porphyrio, Brisson.

168. * Porphyrio pulverulentus.

Porphyrio pulverulentus, Temm. Pl. Col. 405, "Africa" *errore* (1826); v. Martens, J. f. O. 1866, p. 29, no. 176.

Porphyrio poliocephalus, Lath., apud Schlegel, Mus. Pays-Bas, *Ralli*, p. 54, "Philippines," nec Lath.; *conf.* Walden, Tr. Z. S. viii. p. 92. [*Anteà*, p. 192.]

Hab. Philippines (type, *fide* Schlegel, *l. c.*).

Dr. v. Martens (*l. c.*) notes this species as being among the Philippine birds preserved in the Military Library at Manilla. Tr. Z. S. ix p. 229

Gallinulinæ.

Gallinula, Brisson.

169. Gallinula chloropus.

Fulica chloropus, Linn. S. N. i. p. 258, no. 4 (1766).

Hab. Luzon, 7th of February, ♂ ♀; bill red, yellow at the tip; legs yellow-green; nails grey (*Meyer*).

These examples agree with European specimens.

GALLICREX, Blyth.

170. GALLICREX CINEREA.

Crested Gallinule, Lath. Gen. Synopsis, v. p. 267, no. 22, "China?" *descr. orig.*

Fulica cinerea, Gm. S. N. i. p. 702, no. 20 (1788), ex Lath.; v. Martens, J. f. O. 1866, p. 29, no. 174.

Gallinula cristata, Lath. Ind. Orn. ii. p. 773, no. 23 (1790), ex Lath., nec *Fulica cristata*, Lath. *tom. cit.* p. 779, no. 3; G. R. Gray, List Br. Mus. *Grallæ*, p. 123, "Isl. of Manilla."

Gallinula plumbea, Vieill. Nouv. Dict. d'Hist. Nat. xii. p. 404, ♂, "Java" (1817).

Gallinula lugubris, Horsf. Tr. Linn. Soc. xiii. p. 195, ♂, "Java" (1820).

Gallinula gularis, Horsf. *l. c.* ♀, "Java."

Gallinula nævia, Gm., apud Lesson, Tr. p. 534, ♀, "Manilla" (1831), *nec* Gm.; Pucheran, Rev. et Mag. Zool. 1851, p. 569.

Gallinula porphyrioides, Less. *l. c.*, ♂, "*Patr. incog.*;" Pucheran, *l. c.*

Rallus rufescens, Vieill., Jerdon, Madras J. L. & Sc. xii. p. 205, no. 331, ♀, "near Cochin" (1840).

Gallicrex cristatus (Lath.), Blyth, Cat. Calc. Mus. p. 283, no. 1660 (1849).

Hab. Manilla (*Dussumier*, *Cuming*).

Observed by Dr. v. Martens in the Military Library of Manilla.

ERYTHRA, Reichenbach.

171. ERYTHRA PHŒNICURA.

Rallus phœnicurus, Forster, Zool. Ind. p. 19, pl. 9, "Ceylon" (1781); v. Martens, J. f. O. 1866, p. 29, no. 171; Walden, Tr. Z. S. viii. p. 94. [*Anteà*, p. 193.]

Hab. Zamboanga (*v. Martens*).

Tr. Z. S. ix. p. 230.

RALLIDÆ.

ORTYGOMETRA, Linnæus.

172. ORTYGOMETRA CINEREA.

Porphyrio cinereus, Vieill. Nouv. Dict. d'Hist. Nat. xxviii. p. 29, "Java" (1819); Schlegel, Mus. Pays-Bas, *Ralli*, p. 32; Walden, Tr. Z. S. viii. p. 94. [*Anteà*, p. 193.]

Hab. Philippines (*Cuming*).

PORZANA, Vieillot.

173. PORZANA PYGMÆA†.

Crex pygmæa, Naumann, Schlegel, Mus. Pays-Bas, *Ralli*, p. 30 [1824].

Hab. Philippines (*Verreaux*).

The Philippine habitat of this Water-Crake rests solely on a single individual thus identified by Professor Schlegel in the Leyden Museum, and acquired from M. Verreaux.

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† [The title *P. bailloni*, Vieill. (1819), has precedence.—TWEEDDALE. (MS. note.—ED.)].

174. PORZANA FUSCA.

Rallus philippensis fuscus, Brisson, Orn. v. p. 173, no. 2, "Philippines."

Rallus fuscus, Linn. S. N. i. p. 262, no. 4 (1766), ex Brisson; Schlegel, Mus. Pays-Bas, *Ralli*, p. 20.

Râle brun des Philippines, D'Aubenton, Pl. Enl. 773.

Gallinula rubiginosa, Temm. Pl. Col. 357, "Java" (1825).

Hab. Philippines (*Cuming*).

An adult Philippine example, obtained by Cuming, is preserved in the Leyden Museum; and with it Professor Schlegel (*l. c.*) identifies individuals from Borneo, Java, and Sumatra. From Javan examples I am unable to distinguish Ceylon specimens. *Gallinula erythrothorax*, Schlegel, Faun. Japon. *Aves*, p. 121, pl. 78, "Japan," only differs in being considerably larger. It is still a question whether the race which occurs in Nepal, *Zapornia flammiceps*, Hodgs., Gray (Zool. Misc. 1844, p. 86, *sine descr.*), belongs to the Japanese or the Southern-Asiatic race. Radde (Reisen im Süden von Ost-Sib. ii. p. 309) obtained, in June and July, on the middle Amoor, examples of greater size than even those from Japan. Mr. Swinhoe (P. Z. S. 1871, p. 414, no. 605) states that the "pectoral red does not extend so low down as in *P. fusca*," this character being a sign of immaturity in the South-Asiatic form.

In the Hand-list, *P. fusca* and *P. rubiginosa* are kept separate. To the last, Pl. Col. 357 is correctly referred; to the first, Pl. Col. 387 (which represents *Esacus magnirostris*) is added as a reference †.

RALLINA, Reichenbach.

Tr. Z. S. ix. p. 231.

175. RALLINA FASCIATA.

Rallus fasciatus, Raffles, Tr. Linn. Soc. xiii. p. 328, "Sumatra" (1821).

Gallinula eurizona, Temm. Pl. Col. 417, "Java" (1826).

Rallus ruficeps, Cuv. Mus. Par.; Lesson, Tr. p. 537, no. 24, "Java, Manilla" (1831).

Ortygometra ocularis, G. R. Gray, List Br. Mus. *Grallæ*, p. 119, "Philippine Isl." (1844).

Ortygometra eurizona (Temm.), G. R. Gray, op. cit. p. 117, "Manilla" (1844).

Hab. Philippines, Manilla (*Cuming*, *Dussumier*).

AMAURORNIS, Reichenbach.

176. *AMAURORNIS OLIVACEA. (Pl. XXXIII. fig. 2, *in orig.*)

Gallinula olivacea, Meyen, Nov. Act. Ac. C. L. C. Nat. Cur. xvi. suppl. prim. p. 109, pl. 20, "Manilla" (1834).

Amaurornis olivacea (Meyen), Reichenbach, Natürl. Syst.

Hab. Manilla, near the sea-coast (*Meyen*); Luzon (*mus. nostr.*).

Said also to occur in Ternate and in Halmaheira (Schlegel, Mus. Pays-Bas, *Ralli*, p. 43); but examples from these localities have yet to be compared with Philippine specimens.

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† This error seems to have arisen from the misprint in Blyth's Cat. of the Calc. Mus. p. 285, no. 1666, having been copied.

HYPOTÆNIDIA, Reichenbach.

177. * HYPOTÆNIDIA TORQUATA.

Rallus philippensis torquatus, Briss. Orn. v. p. 170, no. 6, "Philippines" (1760).

Rallus torquatus, Linn. S. N. ed. 12, i. p. 262 (1766), ex Brisson.

Rallus lineatus, Cuv. Mus. Paris, *fide* Pucher. Rev. et Mag. Zool. 1851, p. 276, "Manilla;" Lesson, Tr. p. 536, no. 11 (1831).

Rallus torquatus, Briss., Meyen, Nov. Act. Ac. C. L. C. Nat. Cur. suppl. prim. p. 108, pl. 19; Lesson, *l. c.* no. 12.

Hab. Luzon, January (*Meyer*).

Two examples, both marked female, were obtained by Dr. Meyer. One is in full plumage, with all its colours fresh and bright, the maroon collar well developed; this I believe to be a male. The other has its markings less sharply defined, the black of the throat mixed with grey, and the pectoral band of the same colour as the back; in its dimensions it considerably exceeds the first.

178. HYPOTÆNIDIA PHILIPPENSIS.

Rallus philippensis, Brisson, Orn. v. p. 163, no. 4, "Philippines."

Rallus philippensis, Linn. S. N. i. p. 263, no. 7 (1766), ex Brisson; Schlegel, Mus. Pays-Bas, *Ralli*, p. 23; Walden, Tr. Z. S. viii. p. 95†; Buller, Birds N. Zealand, part iii. pl. 6. fig. —.

Tr. Z. S. ix. p. 232. *Râle rayé des Philippines*, D'Aubenton, Pl. Enl. 774.

Hab. Philippines (*Cuming*).

179. HYPOTÆNIDIA STRIATA.

Rallus philippensis striatus, Brisson, Orn. v. p. 167, no. 5, "Philippines."

Rallus striatus, Linn. S. N. i. p. 262, no. 5 (1766), ex Brisson; Schlegel, Mus. Pays-Bas, *Ralli*, p. 24; Walden, Tr. Zool. Soc. viii. p. 95†.

Hab. Luzon (*Gevers*).

Lesson (Tr. p. 538, no. 30) introduces, without description, a species of Rail said to be from the Philippines, under the titles of "*Râle écaudé*, Cuv., Gal. de Paris; *Gallinula circoleps*, Temm." Bonaparte (Compt. Rend. xliii. p. 599, no. 382) classified the same bird under *Corethrura*, and transformed Cuvier's French museum title into *Rallus ecaudatus*, Cuv. This, in its turn, becomes *caudatus*, Cuv., in Mr. Gray's Hand-list, no. 10474. Dr. Pucheran does not notice this type; and I am unable to identify it.

PARRIDÆ.

HYDROPHASIANUS, Wagler.

180. HYDROPHASIANUS CHIRURGUS.

Le Chirurgien de l'isle de Luçon, Sonnerat, Voy. Nouv. Guin. p. 81, pl. 45.

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† [*Anteà*, p. 194.—ED.]

Tringa chirurgus, Scopoli, Del. Fl. Faun. Insubr. ii. p. 92, no. 80 (1786), ex Sonn.

Parra luzoniensis, Gm. S. N. i. p. 709, no. 13 (1788), ex Sonn.

Chinese Jacana, Latham, Gen. Synop. v. p. 246, no. 8, "China."

Parra sinensis, Gm. *l. c.* no. 15, ex Lath.; Schlegel, Mus. Pays-Bas, *Ralli*, p. 71; v. Martens, J. f. O. 1866, p. 29, no. 177.

Hydrophasianus sinensis (Gm.), Wagler, Isis, 1832, p. 279.

Hab. Luzon (*mus. Lugd.*; *v. Martens*).

SCOLOPACIDÆ.

LIMOSINÆ.

NUMENIUS, Linnæus.

181. NUMENIUS PHÆOPUS.

Scolopax phæopus, Linn. S. N. i. p. 243, no. 4 (1766).

Hab. Cujo Island, December (*Meyer*).

Example referred to by Mr. Dresser (Birds of Eur. pt. xvii.), where, however, the name of the locality is misprinted.

Le Courly tacheté de l'isle de Luçon, Sonn. Voy. Nouv. Guin. p. 85, pl. 48, "Luçon." Tr. Z. S. ix. p. 233.

Tantalus variegatus, Scopoli, Del. Fl. Faun. Insubr. ii. p. 92, no. 78 (1786), ex Sonn.

Scolopax luzoniensis, Gm. S. N. i. p. 656, no. 21 (1788), ex Sonn.; G. R. Gray, Hand-list, no. 10252.

Numenius atricapillus, Vieill. Nouv. Dict. d'Hist. Nat. viii. p. 303 (1817), ex Sonn.

Numenius luzoniensis (Gm.), v. Martens, J. f. O. 1866, p. 28, pl. 159.

Professor Schlegel (Mus. Pays-Bas, *Scolopaces*, p. 93) identifies this species with *Numenius phæopus*. Sonnerat's plate and description do not perfectly agree with that species, more especially as he describes and figures the crown of the head as being black. Mr. Swinhoe, who considers *N. uropygialis*, Gould, distinct from *N. phæopus*, has identified Mr. Gould's species with that described by Sonnerat (P. Z. S. 1871, p. 410, no 572). Mr. Dresser (Birds of Eur. pt. 17) has united *N. phæopus* with *N. uropygialis*, and regards Sonnerat's plate as having been drawn from a Philippine example of the common Whimbrel.

Courly brun de l'isle de Luçon, Sonn. Voy. Nouv. Guin. p. 85, pl. 47.

Tantalus rufus, Scopoli, Del. Fl. Faun. Insubr. ii. p. 92, no. 77 (1786), ex Sonn.

Tantalus manillensis, Gm. S. N. i. p. 649, no. 12 (1788), ex Sonn.

Ibis fuscata, Vieill. Nouv. Dict. d'Hist. Nat. xvi. p. 16 (1817), ex Sonn.; Wagler, Syst. Av. p. 372.

I am unable to determine this species; nor has it been recognized since Sonnerat published its description. No author appears to have suggested its identity with any known species. But, curiously enough, Mr. G. R. Gray, in the index (Hand-list, iii. pp. 235, 268), refers Vieillot's title *fuscata*, and Gmelin's title *manillensis*, both being founded on Sonnerat's plate (*l. c.*), to no. 10234 of his Hand-list. This is the number pertaining to *Tantalus albicollis*, Gm., the young of *Tantalus melanopis*, Gm.; but the two titles above given are not added as synonyms, nor do they appear, although indexed, in any part of the work. From this it may be inferred that Mr. Gray at one time identified Sonnerat's *Courly brun* with the South-American species. The elements of Sonnerat's short description are manifestly taken from some form of the genus *Ibis*, and not of *Numenius*.

TOTANINÆ.

RHYACOPHILUS, Kaup.

182. RHYACOPHILUS GLAREOLA.

Tringa glareola, Gm. S. N. i. p. 677, no. 21 (1788); Kittlitz, Lütke, Voy. (Postels) iii. p. 327; v. Martens, J. f. O. 1866, p. 28, no. 164.

Actitis† *glareola* (Gm.), Walden, Tr. Zool. Soc. viii. p. 96. [*Anteà*, p. 195.]

Tr. Z. S. ix. p. 234. *Hab.* Luzon, 9th of February; bill brownish black; legs yellowish green; nails grey (*Meyer*); Manilla (*Kittlitz, Jagor*).

A female (*fide* Meyer) in winter dress.

TRINGOIDES, Bonaparte.

183. TRINGOIDES HYPOLEUCOS.

Tringa hypoleucos, Linn. S. N. i. p. 250, no. 14 (1766); Schlegel, Mus. Pays-Bas, *Scolopaces*, p. 80; v. Martens, J. f. O. 1866, p. 28, no. 166; Finsch & Hartl. Vög. Ost-Afrikas, p. 752.

Hab. Philippines (*Cuming*); Luzon (*Jagor*).

For complete synonymy and range *cf.* O. Finsch & Hartl. *l. c.*

TOTANUS, Bechstein.

184. TOTANUS CALIDRIS.

Scolopax calidris, Linn. S. N. i. p. 245, no. 11 (1766); Schlegel, Mus. Pays-Bas, *Scolopaces*, p. 65.

Hab. Philippines (*Cuming*).

A Philippine example from Cuming's collection is preserved in the Leyden Museum.

185. TOTANUS GLOTTIS.

Scolopax glottis, Linn. S. N. i. p. 245, no. 10 (1766); Schlegel, Mus. Pays-Bas, *Scolopaces*, p. 61; v. Martens, J. f. O. 1866, p. 28, no. 165.

Hab. Philippines (*Cuming*); Luzon (*Jagor*),

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† *Actitis*, Kaup, Prodromus, p. 262 (1811), is Kaup's title for an incongruous group consisting of *Scolopax limosa*, *S. totanus*, *Tringa pugnax*, and *T. hypoleucos*.

TRINGINÆ.

TRINGA, Linnæus.

186. TRINGA RUFICOLLIS.

Tringa ruficollis, Pallas, Reisen Russisch. Reichs, iii. p. 700, no. 31, "Dauria" (1776), *descr. orig.*

Tringa salina, Pallas, Zoogr. Rosso-Asiatica, ii. p. 199, no. 309, pl. 61 (1811–31), ex Pallas; Swinhoe, P. Z. S. 1871, p. 409, no. 566; Sharpe & Dresser, Birds of Europe, pt. vii. "*Tringa minuta*," p. 5.

Totanus damacensis, Horsf. Tr. Linn. Soc. xiii. p. 192, "Java" (1820); Walden, Tr. Zool. Soc. viii. p. 97. [*Anteà*, p. 196.]

Hab. Luzon, 7th of February: bill black; feet yellowish grey; claws black (*Meyer*).

A single example of a long-toed *Tringa*, in winter plumage, was obtained in Luzon, which I do not doubt belongs to this species. The outer rectrices are brownish grey, and not pure white, and the shaft of the first primary only is white. In dimensions it agrees with a Lake-Baikal example in red summer plumage. The general ground-colour of the upper plumage is greyish brown, most of the feathers being largely centred with dark brown; from the base of the bill to the eye an unspotted bald albescent stripe, which passes over the eye and loses itself above the ear-coverts. Under plumage white, the sides of the breast clothed by cinereous feathers with small brown centres. My Lake-Baikal example also has the sides of the breast similarly marked, only that the rufous is mixed with the cinereous. The middle toe, including the nail, nearly measures a full inch.

Tr. Z. S. ix. p. 235.

Pallas altered his first title, *ruficollis* (which Gmelin and Latham adopted), to *salina*.

SCOLOPACINÆ.

GALLINAGO, Leach.

187. GALLINAGO SCOLOPACINA.

Scolopax gallinago, Linn. S. N. i. p. 244, no. 7 (1766).

Gallinago scolopacina, Bonap. Compt. Rend. xliii. p. 579 (1856).

Hab. Luzon: feet yellowish; nails grey (*Meyer*).

Two examples of this species of Snipe (♂ *fide* Meyer) were procured by Dr. A. B. Meyer on the 7th of February at Laguna de Bai.

188. GALLINAGO MEGALA.

Gallinago megala, Swinhoe, Ibis, 1861, p. 343, no. 118, "Amoy."

Scolopax (*Spilura*) *stenura*, Temm., apud Radde, Reisen im Süden von Ost-Sibir. ii. p. 334, no. 208, pl. xiii. f. 1, 2, 3 (1863).

Scolopax heterura, Cab. J. f. O. 1866, p. 28, no. 163, "Luzon" (*minime* Hodgson), *descr. nulla.*

Gallinago heterocerca, Cab. *op. cit.* 1870, p. 235, *descr. princeps*; id. *op. cit.* 1872, p. 317.

Scolopax heterocerca (Cab.), Taczanowski, J. f. O. 1870, p. 311, no. 17.

"*Gallinago megala*, Swinhoe," O. Finsch, Verh. zool.-bot. Ges. Wien, 1872, p. 267 (sub *G. stenura*).

Hab. Luzon (*Jagor*).

RHYNCHÆA, Cuvier.

189. RHYNCHÆA CAPENSIS.

Gallinago capitis bonæ spei, Brisson, Orn. vi. suppl. p. 141.

Scolopax capensis, Linn. S. N. i. p. 246, no. 14 (1766), ex Brisson; O. Finsch & Hartl. Vög. Ost-Afrikas, p. 774.

Rhynchæa variegata, Vieill., Schlegel, Mus. Pays-Bas, *Scolopaces*, p. 16.

Rhynchæa, sp.?, v. Martens, J. f. O. 1866, p. 28, no. 162.

Hab. Philippines (*Cuming*).

Several examples obtained by Cuming in the Philippines are contained in the Leyden Museum.

Tr. Z. S. ix. p. 236.

Grus, sp., v. Martens, J. f. O. 1866, p. 27, no. 148.

If we may rely on Camel, and also on Buzeta, the Philippines are inhabited by members of both the Ciconiidæ and the Gruidæ. No other author has confirmed the statement (*cf.* v. Martens, *l. c.*).

ARDEIDÆ.

ARDEINÆ.

ARDEA, Linnæus.

190. ARDEA PURPUREA.

Ardea purpurea, Linn. S. N. i. p. 236, no. 10 (1766).

Ardea purpurea, var. *manillensis*, Meyen, Nov. Act. Ac. C. L. C. Nat. Cur. xvi. suppl. prim. p. 102, "Manilla" (1834).

Hab. Manilla (*Meyen*).

Separated from the European species by Meyen, chiefly on account of its greater size.

Ardea longicollis, Meyen, Nov. Act. Ac. C. L. C. Nat. Cur. xvi. suppl. prim. p. 104, "Philippines" (1834), has never been identified. If not a distinct species, it probably belongs to one of the races of *Ardea alba*, not to *Herodias garzetta*, as assigned by Mr. G. R. Gray in the Hand-list, no. 1013.

ARDETTA, G. R. Gray.

191. ARDETTA FLAVICOLLIS.

Yellow-necked Heron, Latham, Synop. Suppl. p. 239, no. 82, "India, Oude."

Ardea flavicollis, Lath. Ind. Orn. ii. p. 701, no. 87 (1790), ex Lath.; Gray & Hardw. Ill. Ind.

Zool. i. pl. 66. fig. 2; Jerd. Ill. Ind. Orn. pl. 16; Wagler, Syst. Av. p. 180, no. 16; Horsf. Tr. Linn. Soc. xiii. p. 189, "Java;" Bp. Consp. ii. p. 131, "Ind. continent;" Gould, Birds Austral., 8vo, ii. p. 315, "Australia."

Ardea nigra, Vieill. N. Dict. xiv. p. 417, "Bengal" (1817).

Ardea bilineata, Cuv. Mus. Paris.; Pucher. Rev. et Mag. Zool. 1851, p. 374, "Java;" Bp. *tom. cit.* p. 132, "Malasia, Java, Sumatra;" v. Martens, J. f. O. 1866, p. 28, "Philippines."

Ardea picta, Raffles, Tr. Linn. Soc. xiii. p. 326, "Sumatra" (1821).

Ardea australis, Cuv. Mus. Paris.; Pucher. *tom. cit.* p. 375 (juv.), "Australia."

Ardetta gouldi, Bp. *tom. cit.* p. 132, "Australia" (1857).

Ardea flavicollis australis, Schlegel, Mus. Pays-Bas, *Ardeæ*, p. 46, "Australie."

Dr. von Martens (*l. c.*) identified a species of Heron, contained in the Military Library at Manilla, with *Ardea bilineata*, Cuv. This title Pucheran has shown (*l. c.*) to have been bestowed on Javan examples of a species identical with the Indian Yellow-necked Heron.

192. ARDETTA CINNAMOMEA. Tr. Z. S. ix p. 237

Cinnamon Heron, Lath. Gen. Synop. iii. pt. 1, p. 77, no. 43, "China."

Ardea cinnamomea, Gm. S. N. i. p. 643, no. 73 (1788), ex Lath.; Schlegel, Mus. Pays-Bas *Ardeæ*, p. 40; v. Martens, J. f. O. 1866, p. 28, no. 154.

Hab. Philippines (*Schlegel*, *v. Martens*).

193. ARDETTA SINENSIS.

Chinese Heron, Latham, Gen. Synop. iii. pt. 1, p. 99, no. 73, "China."

Ardea sinensis, Gm. S. N. i. p. 643 (1788), ex Lath.; Walden, Tr. Zool. Soc. viii. p. 99 †; Schlegel, Mus. Pays-Bas, *Ardeæ*, p. 40, "Philippines."

Hab. Philippines (*Schlegel*).

BUBULCUS, Pucheran.

194. BUBULCUS COROMANDA.

Le Crabier de Coromandel, Buffon, Hist. Nat. vii. p. 393; D'Aubenton, Pl. Enl. 910.

Cancroma coromanda, Bodd. Tabl. Pl. Enl. p. 54 (1783), ex D'Aubent.; v. Martens, J. f. O. 1866, p. 27, "Luzon;" Schlegel, Mus. Pays-Bas, *Ardeæ*, p. 30.

Hab. Luzon (*Jagor*).

HERODIAS, Boie.

195. HERODIAS GARZETTA.

Ardea garzetta, Linn. S. N. i. p. 237, no. 13 (1766); v. Martens, J. f. O. 1866, p. 27, no. 151, "Luzon;" Schlegel, Mus. Pays-Bas, *Ardeæ*, p. 15, "Philippines."

Ardea nigripes, Temm. Man. d'Orn. 2nd ed. pt. iv. p. 376, "l'Archipel des Indes" (1840).

Ardea candidissima, Gm., Kittlitz, Lütke, Voy. (Postels) iii. p. 327, "Manilla," *nec* Gm.

Hab. Luzon (*Jagor*).

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† [*Anteà*, p. 198.—ED.]

196. HERODIAS INTERMEDIA.

Ardea intermedia, Wagler, Isis, 1829, p. 659, "Java;" Schlegel, Mus. Pays-Bas, *Ardeæ*, p. 20.

A Philippine example in the Leyden Museum is thus identified by Professor Schlegel.

BUTORIDES, Blyth.

197. BUTORIDES JAVANICA.

Ardea javanica, Horsf. Tr. Linn. Soc. xiii. p. 190, "Java" (1820); Schlegel, Mus. Pays-Bas, *Ardeæ*, p. 43; v. Martens, J. f. O. 1866, p. 27; Walden, Tr. Zool. Soc. viii. p. 100 †; Finsch & Hartl. Faun. Central-Polynes. p. 207; Walden and Layard, Ibis, 1872, p. 105, "Negros" ‡.

Hab. Philippines (*Schlegel*); Luzon (*Jagor*); Negros (*L. C. Layard*).

Tr. Z. S. ix. p. 238.

BOTAURINÆ.

NYCTICORAX, Stephens.

198. *NYCTICORAX MANILLENSIS.

Nycticorax manillensis, Vigors, P. Z. S. 1831, p. 98, "neighbourhood of Manilla;" Fraser, Zool. Typica, pl. 66; Bp. Consp. ii. p. 140, "Philippines;" v. Martens, J. f. O. 1866, p. 28, "Isl. of Samar;" Schlegel, Mus. Pays-Bas, *Ardeæ*, p. 60, "Luçon;" G. R. Gray, Hand-List, no. 10173, "Philippines."

"*Ardea caledonica*, Forster," Meyen, Nov. Ac. C. L. C. Nat. Cur. xvi. suppl. prim. p. 103, "Manilla," *nec* Forster; v. Martens, *tom. cit.* no. 158.

Hab. Manilla (*Lindsay*).

Professor Schlegel (*l. c.*) unites *Nycticorax crassirostris*, Vigors (Voy. Blossom, Zool. p. 27, "Bonin isl.," 1839), with *N. manillensis*. According to Vigors, it only differs from *N. caledonicus* in the shape of the bill and its colour, and in the wing being an inch shorter. With *N. manillensis* he makes no comparison. This last does appear to differ from *N. caledonicus*; but as the type of *N. crassirostris* is no longer contained in the British Museum, although enumerated in the Hand-list as being extant, I am unable to confirm Professor Schlegel's opinion.

199. NYCTICORAX GRISEUS.

Ardea grisea, Linn. S. N. i. p. 239, av. juv. (1766).

—— *nycticorax*, Linn. *tom. cit.* p. 235; Meyen, Nov. Act. Ac. C. L. C. Nat. Cur. xvi. suppl. prim. p. 104, "Manilla;" v. Martens, J. f. O. 1866, p. 28, "Taalsee."

Hab. Manilla (*Meyen*).

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† [*Anteà*, p. 199.—ED.]

‡ [*Anteà*, p. 112.—ED.]

GORSACHIUS, Bonaparte.

200. GORSACHIUS MELANOLOPHUS.

Ardea melanolopha, Raffles, Tr. Linn. Soc. xiii. p. 326, *adult*, "Sumatra" (1821); Layard, Ann. & Mag. Nat. Hist. 1854, 2nd ser. vol. xiv. p. 114, "Ceylon;" Blyth, Ibis, 1865, p. 38; *op. cit.* 1867, pp. 173, 309; Swinhoe, P. Z. S. 1871, p. 413; Holdsworth, P. Z. S. 1872, p. 478, "Ceylon."

Nycticorax limnophilax, Temm. Pl. Col. 581, *juv.*, "Java" (1835); Bp. Consp. ii. p. 156; Schlegel, Mus. Pays-Bas, *Ardeæ*, p. 55, "Philippines, Bangka, Java."

Gorsachius goisagi, Temm., Bp. Consp. ii. p. 138, no. 122 (*adult*, Mus. Paris); Swinhoe, Ibis, 1865, p. 358; *op. cit.* 1866, pp 123, 403.

Tigrisoma limnicola, Reichenb. Syst. Av. p. 16 (1852).

—— *typus*, Pucheran, Bp. *l. c.*

Ardea (*Botaurus*) *philippensis*, Gm., apud v. Martens, J. f. O. 1866, p. 28, no. 155 (*nec* Gm.).

? *Nycticorax goisagi*, Temm. Pl. Col. 582, *adult*, "Japan" (1835); Faun. Japon. p. 116, pl. 70; Bp. Consp. ii. p. 138, no. 122, *juv.* ex Japan; Schlegel, Mus. Pays-Bas, *Ardeæ*, p. 54. Tr. Z. S. ix. p. 239.

? *Gorsachius melanolophus* (Raffles), G. R. Gray, Hand-list, no. 10177, "Japan."

It is still a matter of some doubt whether the species of the genus *Gorsachius* which occurs in Ceylon, Tenasserim, the Sunda islands, the Malayan peninsula, and the Philippines (*Ardea melanolopha*, Raffles) is the same as that which inhabits Japan (*Nycticorax goisagi*, Temm.). Professor Schlegel (*l. c.*) keeps them distinct, whereas Mr. Swinhoe, in his last list of the Birds of China (*l. c.*), unites them. Professor Schlegel's materials for comparison consisted of four Japanese individuals, two from Java, one from Bangka, and one from the Philippines, while Mr. Swinhoe appears to have obtained his in Formosa only. The most marked differential character possessed by *G. melanolophus* is its black crown and long black crest, each plume in the immature bird (*Nycticorax limnophilax*, Temm.) having a bold subterminal white irregular mark. In no authentic Japanese individuals do the crown and crest seem to be black; in the adult they are of a rich purple chestnut. Prince Bonaparte (*l. c.*) described two individuals: one, contained in the Paris Museum, having a black crest, he noted as the adult; the other, with the head and nape bright chestnut, as the young. They are both stated to be "ex Japan, nec inss. Philippensibus." They are certainly examples of adult birds; for the immature plumage of the Archepelagic, the Formosan, and the Japanese races have been fully described. The type of *Ardea melanolopha* is described by Sir Stamford Raffles (*l. c.*) as possessing a black crest*. Mr. Blyth (Ibis, 1865, p. 38) mentions that he has seen *A. melanolopha* from Malacca, Arracan, Ceylon, and the Philippines, that the adult is similar to *G. goisagi*, but has a long black-crested pileus at all ages, while *G. goisagi* from Japan has no black on the crest at any age. This opinion Mr. Blyth subsequently modified (*op. cit.* 1867, p. 173), in consequence of some observations of Mr. Swinhoe (*op. cit.* 1866, p. 403) on the seasonal changes of the crest-feathers, based on two adult specimens sent from Formosa. Mr. Swinhoe speaks positively of the black crest being present in the summer dress, and adds:—"In winter the crest *seems* to fall, leaving the head smooth and plain chestnut, instead of being capped and crested with cinereous-black plumes." A valuable and detailed account given by Mr. Swinhoe (*tom. cit.* p. 123) of the Formosan species when young (nearly full-grown) agrees with the Archipelagic bird at a similar age. This state of plumage is not found, or at least has not been described as occurring, in the Japan species (*cf.* Faun. Jap. pl. 70, immat., and Mus. Pays-Bas, *l. c.*). The facts known, bearing on the phases of plumage peculiar to the Japanese and the South-Asiatic races, induce me to hesitate before adopting Mr. Swinhoe's views. As a fact, the Malayan species (*G. melanolophus*) wears the full chestnut plumage and the long black crest *in winter*; for I possess specimens, obtained by the late Mr. Maingay at Malacca in December, in that dress. Again, the Japanese, although said not to possess a black crest, does wear a long purple-chestnut crest; for so it is described by Temminck (*l. c.*); and a Nagasaki example (*mus. nostr.*) has a full chestnut-coloured crest. The only Japanese example in the British Museum wears the same plumage.

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* Mr. Blyth (*l. c.*) considers that *A. melanolopha*, Raffles, is the young; but Sir Stamford's description agrees best with the adult plumage.

Tr. Z. S. ix. p. 240.

The bill in all the Malaccan examples I have examined is longer and straighter than in that of the Nagasaki individual above referred to.

The British Museum contains a Philippine example in chestnut plumage, with a black crown and flowing black crest. It is not enumerated in the Hand-list. In the same work, on the other hand, *N. limnophilax*, Temm., is entered as a separate species (No. 10164), from the Philippines, but not as being represented in the Museum.

Dr. v. Martens (*l. c.*) described a species of *Botaurus* which he had observed in the Military Library at Manilla, and identified it with the *Ardea philippensis*, Gm. His short account agrees best with *G. goisagi*; for he says nothing about a black crest; and this negative evidence favours the hypothesis that *G. melanolophus*=*G. goisagi.*

Ardea philippensis, Gm., is generally considered to be the same as *A. undulata*, Gm. S. N. i. p. 637, no. 54. Brisson first described the individual (Orn. v. p. 474, no. 38) on which Gmelin bestowed the title of *A. philippensis*. The type, according to Brisson, was sent from the Philippines to M. Aubrey. The description of the plumage, given in great detail, does not tally as well with *G. melanolophus*, or *G. goisagi*, as with the American species, while the dimensions are much too small. Buffon, also, who (Hist. Nat. Ois. vii. p. 395) entitled it "le petit Crabier," mentions that it is even smaller than "le Blongios" (*Ardetta minuta*). Prince Bonaparte's identification of *A. philippensis*, Gm., with *A. undulata*, Gm. (Consp. ii. p. 138), in which he is confirmed by Professor Schlegel (Mus. Pays-Bas, *Ardeæ*, p. 56), appears therefore, on the whole, to be well founded. In Mr. Gray's Hand-list, no. 10154, it is treated as a distinct Philippine species, under the title of *Zebrilus pumilus* (Bodd.).

Two species of Spoonbills were described by Sonnerat as inhabiting the island of Luzon, namely:—

La Spatule blanche de l'isle de Luçon, Sonn. Voy. Nouv. Guin. p. 89, pl. 51.
Platalea alba, Scop. Del. Fl. Faun. Insubr. ii. p. 92, no. 75 (1786), ex Sonn.
Platalea leucorodia, var. *β*, Gm. S. N. i. p. 614, ex Sonn.,

and

La Spatule huppée de l'isle de Luçon, Sonn. *tom. cit.* p. 90, pl. 52.

Platalea cristata, Scop. *tom. cit.* p 92, no 76, ex Sonn.

Platalea leucorodia, var. γ, Gm. *l. c.*, ex Sonn.

Platalea tenuirostris, Temm. Man. d'Orn., 2nd edit. p. ciii (1820)[†], ex Sonn. pls. 51, 52; Handboek der Eur. Vog. (Dutch tr.) p. cxxxiv (1824), ex Sonn. Tr. Z. S. ix. p. 241.

Platalea luzoniensis, Bp. Consp.[‡] ii. p. 148, no. 6 (1857), ex Sonn. pls. 51, 52; v. Martens, J. f. O. 1866, p. 27, no. 149.

The first is evidently the young of the second species; and if the Philippine habitat assigned to them by Sonnerat is incorrect, the types were in all probability obtained by him either at Madagascar, at the Mauritius (*Pl. telfairi*, Vigors, P. Z. S. 1830–31, p. 41), or in Southern Africa (*Pl. chlororhyncha*, Drapiez, Dict. Cl. d'Hist. Nat. xv. p. 531, 1829; *Pl. nudifrons*, Cuv. Mus. Paris.; Pucher. Rev. et Mag. Zool. 1851, p. 376,—titles founded on individuals generally admitted to belong to one and the same species). Sonnerat's description of his two species is very meagre; but the bill of the first is described as reddish brown, and the feet as being yellow inclining to red. The bill of the second (the adult, crested bird) is stated to be of a ruddy grey (*gris roux*), the edges being red, and the legs of a light but dull red (*rouge claire et terne*). These characters being only found in *Pl. chlororhyncha*, and as no species of Spoonbill has, since Sonnerat wrote, been recorded as inhabiting the Philippines or, indeed, any of the islands of the Malay archipelago, we may with much certainty adopt Professor Schlegel's decided opinion that Sonnerat described from individuals belonging to the African species (*cf.* Schlegel, Mus. Pays-Bas, *Ciconiidæ*, *Pl. chlororhyncha*, p. 22).

Buffon (Hist. Nat. vii. p. 456) considered Sonnerat's two birds to represent one species not differing from *Pl. leucorodia*. But if it be conceded that Sonnerat described from either Mauritius, Madagascar, or African individuals, Scopoli's specific title *alba* must be adopted for the red-legged Spoonbill. This title Prince Bonaparte (*tom. cit.* p. 147) referred to *Pl. leucorodia*, quoting Annus I. Hist. Nat. page 115. No such title occurs at *page* 115; but under *number* 115 Scopoli enumerates *Pl. leucorodia*, Linn., and, as its chief character, uses the word *alba*. In the synonymy of *Pl. leucorodia* by Finsch and Hartlaub (Vög. Ost-Afrikas, p. 715) this reference of Bonaparte's has been accepted without examination and the number misquoted. The same error reappears in Heuglin (Orn. Nordost-Afrikas, p. 1122).

[†] Not 1816, as quoted by Bonaparte, *tom. cit.* p. 148, no. 5, a misprint copied by Dr. O. Finsch, Vög. Ost-Afrikas, p. 718, and by von Heuglin, Orn. Nordost-Afrikas, p. 1126, who adds "première édition."

[‡] A title established by the Prince, although attributed by him to Scopoli.

Tr. Z. S. ix. p. 242.

ANSERES.

ANATIDÆ.

ANATINÆ.

QUERQUEDULA, Stephens.

201. * QUERQUEDULA MULTICOLOR.

La petite Sarcelle de l'isle de Luçon, Sonn. Voy. Nouv. Guin. p. 91, pl. 55.

Sterna multicolor, Scopoli, Del. Fl. Faun. Insubr. ii. p. 92, no. 74 (1786), ex Sonn.

Anas manillensis, Gm. S. N. i. p. 523, no. 91 (1788), ex Sonn.; Eyton, Monogr. Anatidæ, p. 125.

Mr. Eyton (*l. c.*), without hesitation, identifies Manilla (?) examples in Lord Derby's collection and his own with Sonnerat's Luzon Teal, adding that it is allied to *Q. formosa*. Professor Schlegel (Mus. Pays-Bas, *Anseres*, p. 77) identifies, with doubt, Sonnerat's species with the Australian *Nettapus pulchellus*, Gould.

ANAS, Linnæus.

202. *ANAS LUZONICA.

Anas luzonica, Fraser, P. Z. S. 1839, p. 113, "Luzon;" Zool. Typica, pl. 67; v. Martens, J. f. O. 1866, p. 30, no. 189.

Hab. Luzon (*Cuming, Jagor*).

Anas boschas is stated by Dr. Pickering (Cassin, Un. St. Expl. Exped. p. 340) to be raised in immense numbers at the Philippine Islands, but to be undoubtedly of Malay introduction. I do not, therefore, enumerate it as an indigenous species; but there is no good reason to doubt the probability of its being also a wild winter Duck in the Archipelago.

DENDROCYGNA, Swainson.

203. DENDROCYGNA VAGANS.

Dendrocygna vagans, Eyton, MS.; Fraser, Zool. Typica, pl. 68, "Manilla" (1849); Walden, Tr. Zool. Soc. viii. p. 102 †; v. Martens, J. f. O. 1866, p. 30, no. 190; v. Pelzeln, Reise 'Novara,' Vög. p. 137.

Hab. Manilla (*Cuming*); island of Samar (*Jagor*).

Tr. Z. S. ix. p. 243.

ANSERINÆ.

NETTAPUS, Brandt.

204. NETTAPUS COROMANDELIANUS.

La Sarcelle de Coromandel, Buffon, Hist. Nat. Ois. ix. p. 274, "Côte de Coromandel;" D'Aubent. Pl. Enl. 549, 550.

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† [*Anteà*, p. 201.—ED.]

Anas coromandeliana, Gm. S. N. i. p. 522, no. 90 (1788), ex Buffon; v. Pelzeln, Reise 'Novara,' Vögel, p. 136.

Hab. Luzon (Laguna de Bai), June 20th (*Zelebor*).

PROCELLARIIDÆ.

Procellariinæ.

Puffinus, Brisson.

205. Puffinus leucomelas.

Procellaria leucomelas, Temm. Pl. Col. 587, "Japan" (1836); Temm. & Schlegel, Faun. Japon. *Aves*, p. 131, pl. 85; G. R. Gray, List Br. Mus. *Anseres*, p. 160, "Cataguan" (1844).

Hab. Cataguan (*Cuming*).

LARIDÆ.

Larinæ.

Larus, Linnæus.

206. Larus, sp.

"*Larus ridibundas*, Linn.," v. Martens, J. f. O. 1866, p. 30, no. 184.

Dr. v. Martens (*l. c.*) mentions having observed the Laughing Gull, during the month of May, common on the Passig river; and one or more examples, obtained at Manilla by Jagor, are stated to be preserved in the Berlin Museum. The species occurs rarely as a winter visitant in South China (Swinhoe, P. Z. S, 1871, p. 421); and the above identification requires confirmation.

A species of *Lestris* (*L. hardyi*, Bp. Compt. Rend. xlii. p. 770, 1856) has the Philippines among other localities assigned to it in the Hand-list, no. 10939. Its right to rank as a distinct species is denied by Professor Schlegel (*cf.* Bp. *op. cit.* xliii. p. 644); and its sole claim to be included within the Philippine range rests on the fact of an example, contained in the Berlin Museum, having been captured in mid ocean between the Sandwich and Philippine Islands. In the Leyden Museum, at the time Bonaparte wrote, it was labelled *Lestris parasiticus*? ex Malasia, Boie; and in the Berlin Museum (example above referred to) *Lestris crepidata*, Cabanis. Tr. Z. S. ix. p. 244.

Sterninæ.

Hydrochelidon, Boie.

207. Hydrochelidon leucopareia.

Sterna leucopareia, Natterer, Temm. Man. d'Orn. 2nd ed. ii. p. 746 (1820); Walden, Tr. Zool. Soc. viii. p. 103 *.

Hab. Luzon, February. Bill grey-black; feet coral-red; nails black (*Meyer*).

The example thus labelled has the bill and feet dark carmine in the dried skin.

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* [*Anteà*, p. 202.—Ed.]

208. Hydrochelidon, sp.

Sterna (Hydrochelidon) fluviatilis, Gould ?, v. Martens, J. f. O. 1866, p. 30, no. 186.

Dr. v. Martens (*l. c.*) mentions having seen a Tern very abundant on the Passig river and in the Bay of Manilla, which he identifies, with doubt, as above. Examples are noted by him as being preserved in the Berlin Museum.

Sterna brachyura, v. Kittlitz, Voy. Lütke (Postels), iii. p. 327, *sine descr.*, "Manilla," has not since been recognized.

Onychoprion, Wagler.

209. Onychoprion anæsthetus.

L'Hirondelle de mer de l'isle de Panay, Sonn. Voy. Nouv. Guin. p. 125, pl. 84.

Sterna anæsthetus, Scopoli, Del. Fl. Faun. Insubr. ii. p. 92, no. 72 (1786), ex Sonn.

Panayan Tern, Lath. Synop. iii. pt. 2, p. 363, no. 15, ex Sonn.

Sterna panayensis, Gm. S. N. i. p. 607, no. 16 (1788), ex Lath.

Sterna panaya, Lath. Ind. Orn. ii. p. 808, no. 16 (1790), ex Gm.: Finsch & Hartl. Orn. Centralpolyn. p. 228; Vögl. Ost-Afrik. p. 833.

Hab. Panay (*Sonnerat*).

Anous, Leach.

210. Anous stolidus ?

Sterna stolida, Linn. S. N. i. p. 227, no. 1 (1766).

Le petit Fouquet des Philippines, Sonn. Voy. Nouv. Guin. p. 125, pl. 85.

Sterna pileata, Scopoli, Del. Fl. Faun. Insubr. ii. p. 92, no. 73 (1786), ex Sonn.

Sterna philippina, Lath. Ind. Orn. ii. p. 805, no. 7 (1790), ex Sonn.

Sonnerat's description differs somewhat from *A. stolidus*; and until Philippine examples can be compared, the question of identity must remain in doubt.

Tr. Z. S. ix. p. 245.

PODICIPIDÆ.

Podiceps, Latham.

211. * Podiceps philippensis.

Le Castagneux des Philippines, Buffon, Hist. Nat. Ois. viii. p. 246; D'Aubenton, Pl. Enl. 945; Temm. Man. d'Orn. ii. p. 729.

Colymbus minor, var. β, Gm. S. N. i. p. 591, no. 20, ex Buffon.

Colymbus philippensis, Bonnaterre, Encycl. i. p. 58, pl. 46. f. 3 (1823), ex Buffon; v. Martens, J. f. O. 1866, p. 31, no. 192.

Hab. Luzon (*Jagor*).

Messrs. Finsch and Hartlaub (Ost-Afrik. iv. 812) unite the Asiatic species of Little Grebe with European *P. minor*. Buffon (*l. c.*) states that the Philippine species is distinct. Temminck (*l. c.*) is of the same opinion; and Dr. v. Martens, who has had opportunities of comparing Jagor's Philippine example in the Berlin Museum, enumerates the Philippine Dabchick under Bonnaterre's title.

PELECANIDÆ.

PELECANINÆ.

PELECANUS, Linnæus.

212. PELECANUS ROSEUS.

Le Pélican rose de l'isle de Luçon, Sonnerat, Voy. Nouv. Guin. p. 91, pl. 54, adult.

Pelecanus roseus, Gm. S. N. i. p. 570, no. 9 (1788), ex Sonn.; Donndorff, Zool. Beytr. vol. ii. pt. i. p. 848, no. 9 (1794), ex Gm.

Le Pélican brun de l'isle de Luçon, Sonn. *loc. cit.* pl. 53. *juv.**

Pelecanus manillensis, Gm. *op. cit.* p. 571, no. 11 (1788), ex Sonn.

? *Pelecanus javanicus*, Horsf. Tr. Linn. Soc. xiii. p. 197, "Java" (1820).

P. manillensis, Gm., and *P. roseus*, Gm., have been regarded by most authors, and latterly by Mr. Elliot in his useful Monograph of the genus (P. Z. S. 1869, p. 583), as belonging to *P. philippensis*, Gm. A reference to Sonnerat's plate 54, and his description of the Pelican there figured, however, leaves it almost certain that he intended to represent a different species. This was also the view maintained by Dr. Jerdon (Birds Ind. iii. pp. 858, 859), who identified the Lesser White Pelican of India with *P. roseus*, Gm. Until Luzon examples can be examined, the question must remain in doubt. Sonnerat's 53rd plate appears to represent the immature plumage.

213. PELECANUS PHILIPPINENSIS. Tr. Z. S. ix. p. 246.

Onocrotalus philippinensis, Brisson, Orn. vi. p. 527, no. 3, "Luçon."

Pelecanus philippinensis, Gm. S. N. i. p. 571, no. 12 (1788), ex Brisson; Bp. Compt. Rend. xliii. p. 574; Sclater, P. Z. S. 1868, p. 268; *op. cit.* 1871, p. 633.

Pelecanus rufescens, Gm. (partim); Lichtenst. Abhandl. Akad. Wissensch. Berl. 1838, p. 439 (partim); Elliot, P. Z. S. 1869, p. 583 (partim); G. R. Gray, Hand-list, no. 11155 (partim).

Originally described from an example obtained in Luzon and sent to M. Aubrey at Paris.

Although Lichtenstein, Schlegel, Elliot, and G. R. Gray unite this Pelican with *P. rufescens*, the view adopted by Bonaparte, Sclater, Barboza du Bocage, and Finsch & Hartlaub, that the African bird belongs to a distinct species, is most in accordance with the known facts.

SULINÆ.

DYSPORUS, Illiger.

214. DYSPORUS SULA.

Pelecanus sula, Linn. S. N. i. p. 218, no. 7 (1766); Walden, Tr. Z. S. viii. p. 106, no. 191†.

Sula fiber (Linn.), G. R. Gray, List Br. Mus. *Anseres*, p. 183, "Mindanao" (1844).

Hab. Mindanao (*Cuming*).

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* Scopoli omitted to bestow a Latin title on either of the two Pelicans figured by Sonnerat.

† [*Antea*, p. 204.—ED].

215. DYSPORUS PISCATOR.

Pelecanus piscator, Linn. Amœn. Acad. iv. p. 239, no. 8 (1759); S. N. i. p. 217, no. 6 (1766); Cassin, Un. St. Expl. Exped. 2nd edit. Ornith. p. 365; Finsch & Hartl. Faun. Centralpolyn. p. 255.

Hab. Philippines (*Pickering*).

GRACULINÆ.

PHALACROCORAX, Brisson.

216. PHALACROCORAX, sp.

Carbo sinensis, Shaw, v. Martens, J. f. O. 1866, p. 29, no. 180.

A species of Cormorant, "einfarbig schwarz," observed by Dr. v. Martens in the Military Library at Manilla, is identified by him with *Pelecanus sinensis*, Shaw and Nodder (Nat. Misc. vol. xiii. pl. 529, *juv.*, "China").

217. PHALACROCORAX, sp.

Carbo lucidus, Lichtenstein, v. Martens, J. f. O. 1866, p. 30, no. 181.

Tr. Z. S. ix. p. 247.

An example from Manilla, preserved in the Berlin Museum, is identified by Dr. v. Martens (*l. c.*) with the well-known African *Ph. lucidus*, a species unknown in Asia and its islands.

PLOTIDÆ.

PLOTUS, Linnæus.

218. PLOTUS MELANOGASTER.

Anhinga melanogaster, Forster, Zool. Ind. p. 22, pl. xii., "Java, Ceylon" (1781); Walden, Tr. Zool. Soc. viii. p. 106; v. Martens, J. f. O. 1866, p. 30, no. 182; Walden & Layard, Ibis, 1872, p. 96, "Negros." [*Anteà*, p. 116.]

Plotus novæ-hollandiæ, Gould, v. Pelzeln, Reise der 'Novara,' *Vögel*, p. 156.

Hab. Luzon, April (*Meyer*); Negros (*L. C. Layard*).

DESCRIPTION OF THE PLATES (*in orig.*).

PLATE XXIII.

Map of the Philippine Archipelago.

PLATE XXIV.

Limnaëtus philippensis, p. 141. From a specimen in the Norwich Museum.

PLATE XXV.

Fig. 1. *Ninox philippensis*, p. 144. From a specimen in Lord Walden's collection.
Fig. 2. *Pseudoptynx philippensis*, p. 144. From a specimen in the British Museum.
Fig. 3. *Lempijius megalotis*, p. 145. From a specimen in the British Museum.

PLATE XXVI.

Fig. 1. *Merops bicolor*, p. 150.
Fig. 2. *Merops sumatranus*, p. 151.
From specimens in Lord Walden's collection.

PLATE XXVII.

Craniorrhinus leucocephalus, p. 165.

Fig. 1, young male; fig. 2, female, not quite adult. From specimens in the British Museum.

PLATE XXVIII.

Penelopides panini, p. 166, Fig. 1 ♂, 2 ♀. From specimens in Lord Walden's collection. Tr. Z. S. ix. p. 248.

PLATE XXIX.

Fig. 1. *Lanius lucionensis*, p. 171. From a specimen in Lord Walden's collection.
Fig. 2. *Pseudolalage melanoleuca*, p. 178. From a specimen in the British Museum.

PLATE XXX.

Fig. 1. *Graucalus striatus*, p. 175.
Fig. 2. *Volvocivora cærulescens*, p. 178.
From specimens in Lord Walden's collection.

PLATE XXXI.

Fig. 1. *Dicrurus balicassius*, p. 180.
Fig. 2. *Hyloterpe philippinensis*, p. 179.
From specimens in Lord Walden's collection.

PLATE XXXII.

Fig. 1. *Philentoma cyaniceps*, p. 182.
Fig. 2. *Ixus urostictus**, p. 191.
From specimens in Lord Walden's collection.

PLATE XXXIII.

Fig. 1. *Copsychus mindanensis*, p. 194.
Fig. 2. *Amaurornis olivacea*, p. 231.
From specimens in Lord Walden's collection.

PLATE XXXIV.

Fig. 1. *Leucotreron gironieri*, p. 213.
Fig. 2. *Phabotreron amethystina*, p. 214.
From specimens in Lord Walden's collection.

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* Written *Pycnonotus urostictus* on the Plate.

APPENDIX.

Containing Index of Philippine species and a Table showing their Geographical distribution †.

Species.		Philippines.																	
		Luzon.	Panay.	Guimaras.	Negros.	Zebu.	Mindanao.	Cujo.	Camiguin.	Celebes.	Borneo.	Java.	Sumatra.	Malay peninsula.	Timor.	India.	Australian Region.	Polynesian Region.	Papuan Subregion.	
1. Cacatua hæmaturopygia, p. 132 [*anteà*, p. 299]		*		*	*															
2. Prioniturus discurus, p. 132 [300]		*		*			*													
3. Tanygnathus luconensis, p. 133 [301]		*		*	*															
4. Cyclopsitta lunulata, p. 133 [301]		*					*													
5. Loriculus philippensis, p. 135 [302]		*																		
6. „ regulus, p. 135 [303]					*															
6*a*. „ occipitalis, p. 135 [303]							*													
7. „ hartlaubi, p. 136 [303]							*													
8. „ chrysonotus, p. 137 [304]						*														
9. Hypotriorchis severus, p. 139 [306]					*					*		*				*			*	
10. Hierax erythrogenys, p. 139 [306]		*																		
11. Lophospiza trivirgata, p. 140 [307]	*										*	*	*			*				Formosa, Ceylon.
12. Teraspiza virgata, p. 141 [308]		*		*							*	*	*	*	*	*				China, Japan, Formosa.
13. Tachyspiza soloënsis, p. 141 [308]	*									*	*	*	*	*					*	China.
14. Limnaëtus philippensis, p. 141 [308]		*																		
15. Cuncuma leucogaster, p. 142 [309]	*									*		*	*	*	*	*	*	*	*	Ceylon.
16. Spilornis holospilus, p. 142 [309]		*					*		*											
17. Haliastur intermedius, p. 142 [309]		*		*								*								Siam.
18. Elanus hypoleucus, p. 142 [309]		*								*	*	*								
19. Baza magnirostris, p. 143 [310]	*																			
20. Butastur indicus, p. 143 [310]		*		*				*		*		*		*					*	Tenasserim, Japan, China.
21. Circus melanoleucos, p. 143 [310]	*													*		*				China, Siberia, Ceylon.
22. „ spilonotus, p. 143 [311]	*													*						China, Formosa, Dauria.
23. „ æruginosus, p. 144 [311]	*														*	*				China, Formosa, Ceylon.
24. Ninox philippensis, p. 144 [311]		*																		
25. Pseudoptynx philippensis, p. 144 [311]	*																			
26. Lempijius? megalotis, p. 145 [312]		*																		
27. Scelostrix candida, p. 145 [312]		*														*	*			Formosa.
28. Thriponax javensis, p. 146 [313]		*					*				*	*		*						
29. Mulleripicus funebris, p. 146 [313]		*																		
30. Chrysocolaptes hæmatribon, p. 147 [314]		*																		
31. „ xanthocephalus, p. 147 [314]					*															
32. „ lucidus, p. 147 [314]		*																		
33. Yungipicus maculatus, p. 148 [315]		*	*				*													
34. Harpactes ardens, p. 149 [316]		*					*													
35. Merops philippinus, p. 149 [316]		*			*					*	*	*	*	*		*				China, Flores, Lombock, Ceylon.
36. „ bicolor, p. 150 [317]		*			*															
37. Eurystomus orientalis, p. 152 [319]		*		*	*			*		*	*	*	*	*	*	*				China, Siberia, Lombock, Flores.
38. Alcedo bengalensis, p. 152 [319]		*									*	*	*	*	*	*				Central Asia, Siberia, China, Japan, [Flores, Gilolo, Ceylon.
39. Alcyone cyanopectus, p. 153 [319]	*																			
40. Pelargopsis gouldi, p. 153 [319]		*																		
41. Ceyx melanura, p. 153 [320]		*																		
42. „ tridactyla, p. 153 [320]	*											*	*	*		*				Ceylon.
43. „ philippinensis, p. 153 [320]		*																		
44. Entomobia gularis, p. 154 [320]		*			*	*														
45. „ pileata, p. 154 [321]	*										*		*	*		*				China, Ceylon.
46. Callialcyon coromanda, p. 155 [321]	*										*	*	*	*		*				
47. Sauropatis chloris, p. 155 [322]		*		*	*	*				*	*	*	*	*		*			*	
48. Actenoides hombroni, p. 155 [322]							*													
49. „ lindsayi, p. 156 [322]		*																		
50. Xantholæma hæmacephala, p. 156 [323]		*					*						*	*		*				
51. „ rosea, p. 157 [324]					*							*								
52. Macropteryx comatus, p. 158 [324]		*									*		*	*						Siam.
53. Collocalia troglodytes, p. 158 [325]		*																		
54. Lyncornis macrotis, p. 159 [325]		*																		
55. Caprimulgus manillensis, p. 159 [326]		*								*										
56. „ griseatus, p. 160 [326]	*																			
57. Cacomantis merulinus, p. 160 [326]		*	*																	
58. Chalcococcyx amethystinus, p. 160 [327]		*																		

Tr. Z. S. ix. p. 250.

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† The first column gives the species whose exact habitat within the Archipelago is not known. European and African ranges are excluded. [A revised List showing all the species which inhabit the Philippines, so far as is known at the present date, will be found at the end of this work.—Ed.]

Species.		Philippines.																		
		Luzon.	Panay.	Guimaras.	Negros.	Zebu.	Mindanao.	Cujo.	Cataguan.	Celebes.	Borneo.	Java.	Sumatra.	Malay peninsula.	Timor.	India.	Australian Region.	Polynesian Region.	Papuan Subregion.	
59. Hierococcyx strenuus, p. 161 [*anteà*, p. 327]		*																		
60. „ pectoralis, p. 161 [327]	*																			
61. Eudynamis mindanensis, p. 162 [328]				*			*													
62. Dasylophus superciliosus, p. 162 [329]		*																		
63. Lepidogrammus cumingi, p. 163 [329]		*																		
64. Centrococcyx viridis, p. 163 [329]		*		*	*	*														
65. Pyrrhocentor melanops, p. 164 [330]							*													
66. Buceros hydrocorax, p. 164 [330]		*																		
67. Craniorrhinus leucocephalus, p. 165 [331]							*													
68. Penelopides panini, p. 166 [332]			*	*																
69. „ manillæ, p. 168 [334]		*																		
70. Lanius nasutus, p. 169 [335]			*			*														
71. „ schach, p. 170 [336]	*																			China, Formosa.
72. „ lucionensis, p. 171 [336]		*		*	*	*														China, Formosa, Andamans.
73. Artamus leucorynus, p. 174 [339]		*		*	*					*	*	*	*		*		*		*	Andamans.
74. Graucalus striatus, p. 175 [340]		*			*		*													
75. Volvocivora? cærulescens, p. 178 [343]		*																		
76. Lalage dominica, p. 178 [343]				*		*					*	*	*	*				*		
77. Pseudolalage melanoleuca, p. 178 [343]		*																		
78. Hyloterpe philippensis, p. 179 [344]		*																		
79. Pericrocotus cinereus, p. 179 [345]	*												*	*						China, Siberia.
80. Dicrurus balicassius, p. 180 [345]		*																		
81. „ mirabilis, p. 181 [346]					*															
82. Philentoma cyaniceps, p. 182 [347]		*																		
83. Leucocerca nigritorquis, p. 182 [347]		*				*														
84. Cyornis banyumas†, p. 192 [347]		*				*				*	*	*	*							
85. Hypothymis azurea, p. 182 [347]		*		*	*						*	*	*	*		*				Andamans, Flores, China, Ceylon.
86. Butalis manillensis, p. 183 [348]		*																		Species undetermined.
87. Zeocephus rufus, p. 183 [348]	*																			
88. Hirundo gutturalis, p. 184 [349]			*							*	*	*	*	*		*			*	China, Japan, Formosa, Ceylon.
89. Cecropis daurica?, p. 185 [349]		*																		Species not determined.
90. Broderipus acrorhynchus, p. 185 [350]		*		*	*	*														
91. Oriolus philippensis, p. 186 [350]	*																			
92. Turdus obscurus, p. 186 [351]	*										*	*		*		*				China, Japan, Formosa, Siberia.
93. „ chrysolaus, p. 187 [351]	*																			China, Formosa, Japan.
94. Erythropitta erythrogastra, p. 187 [352]	*																			
95. Melanopitta sordida, p. 187 [352]		*			*															
96. Megalurus palustris, p. 189 [353]		*										*				*				
97. Crateropus caudatus‡, p. 189 [354]	*															*				
98. Irena cyanogastra, p. 190 [355]		*	*																	
99. Ixus goiavier, p. 190 [355]		*																		
100. „ sinensis, p. 191 [355]		*																		China, Formosa.
101. „ urostictus, p. 191 [356]		*																		
102. Hypsipetes philippinensis, p. 191 [356]		*		*		*														
103. Monticola solitarius, p. 192 [357]		*		*	*					*				*		*			*	Gilolo, China, Formosa, Japan.
104. Pratincola caprata, p. 193 [357]		*								*		*			*	*				Lombock, Formosa, Flores.
105. Cittocincla luzoniensis, p. 193 [358]		*																		
106. Copsychus mindanensis, p. 194 [358]				*	*	*	*													
107. Calliope camtschatkensis, p. 194 [358]																*				Siberia, China.
108. Gerygone simplex, p. 194 [359]		*																		
109. Phyllopneuste magnirostris§, p. 195 [359]	*										*	*		*		*				China, Siberia.
110. Acrocephalus orientalis, p. 195 [359]		*				*				*	*		*	*					*	China, Japan, Lombock.
111. Cisticola semirufa, p. 195 [359]		*																		
112. Orthotomus derbianus, p. 195 [360]	*																			
113. „ castaneiceps, p. 195 [360]				*																
114. Budytes viridis, p. 196 [360]		*								*		*		*		*				China, Moluccas, Ceylon.
115. Calobates melanope, p. 196 [360]		*				*					*	*	*	*		*				China, Formosa, Siberia, Ceylon.
116. Motacilla luzonensis, p. 198 [362]	*																			Unidentified.
117. Corydalla lugubris, p. 198 [362]				*																
118. Machlolophus elegans, p. 199 [363]	*																			
119. Zosterops meyeni, p. 199 [363]		*																		
120. Dicæum retrocinctum‖, p. 199 [363]		*				*														
121. Myzanthe pygmæa, p. 200 [364]		*		*																
122. Nectarophila sperata, p. 200 [364]		*																		
123. Arachnechthra jugularis, p. 200 [364]				*	*	*														

Tr. Z. S. ix.
p. 251.

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† [=*C. philippinensis*, Sharpe.—Ed.]

‡ [=*Megalurus palustris.*—Ed.]

§ [=*P. borealis*, Blas.—Ed.]

‖ [*D. rubriventer*, Less., is the species referred to.—Ed.]

Species.	Philippines.																			
		Luzon.	Panay.	Guimaras.	Negros.	Zebu.	Mindanao.	Cujo.	Cataguan.	Celebes.	Borneo.	Java.	Sumatra.	Malay peninsula.	Timor.	India.	Australian Region.	Polynesian Region.	Papuan Subregion.	
124. Rhabdornis mystacalis, p. 201 [*anteà*, p. 365]		*																		
125. Corvus philippinus, p. 201 [365]		*			*			*												
126. Acridotheres cristatellus, p. 202 [366]		*																		China, Formosa.
127. Sturnia violacea, p. 203 [367]	*									*	*									Japan.
128. Calornis panayensis, p. 205 [369]		*	*		*	*														
129. Sarcops calvus, p. 205 [369]		*		*	*															
130. Pyrgita montanus, p. 206 [370]	*											*		*		*				China, Formosa.
131. Padda oryzivora, p. 207 [371]	*									*	*	*	*	*						S. China, Lombock.
132. Munia jagori, p. 207 [371]		*				*														
133. ,, minuta, p. 208 [372]		*																		
134. Oxycerca jagori, p. 208 [372]		*																		
135. Osmotreron vernans, p. 210 [374]		*								*	*	*	*	*						Cambodia.
136. ,, axillaris, p. 211 [374]		*		*	*															
137. Leucotreron gironieri, p. 213 [377]		*		*																
138. Ramphiculus occipitalis, p. 214 [378]		*																		
139. Phapitreron amethystina, p. 214 [378]		*																		
140. ,, leucotis, p. 214 [378]		*			*															
141. Carpophaga ænea, p. 215 [378]		*			*						*	*	*	*		*				Ceylon, Lombock.
142. Ptilocolpa griseipectus, p. 216 [380]		*																		
143. Myristicivora bicolor, p. 217 [380]					*					*	*	*		*					*	Nicobars.
144. Hemiphaga poliocephala, p. 217 [381]		*																		
145. Ianthœnas griseogularis, p. 218 [381]		*			*															
146. Macropygia tenuirostris†, p. 218 [382]		*			*															
147. Turtur dussumieri, p. 218 [382]		*			*															
148. ,, humilis, p. 219 [383]		*																		S. China, Formosa, Cambodia.
149. Phlogœnas luzonica, p. 221 [384]		*																		
150. Chalcophaps indica, p. 221 [384]		*			*					*	*	*		*		*				Hainan, Formosa.
151. Calœnas nicobarica, p. 222 [386]	*									*				*					*	Nicobars.
152. Geopelia striata, p. 223 [386]	*									*	*	*		*						Lombock, Bangka, Sumbawa.
153. Gallus bankiva, p. 223 [386]		*		*						*		*		*						
154. Arborophila, sp., p. 223 [386]	*																			
155. Excalfactoria chinensis, p. 224 [387]	*										*	*	*	*		*				S. China, Formosa, Ceylon.
156. Turnix ocellata, p. 224 [387]	*																			
157. Rollulus, sp., p. 225 [388]	*																			
158. Megapodius cumingi‡, p. 225 [388]	*										*									
159. Charadrius fulvus, p. 226 [389]		*			*					*	*	*	*	*	*	*	*	*	*	China, Formosa, Japan, Siberia.
160. Squatarola helvetica, p. 226 [389]					*			*			*	*		*	*	*	*		*	Almost cosmopolitan.
161. Ægialitis geoffroyi, p. 227 [390]	*										*	*			*		*		*	China, Japan, Formosa, Flores.
162. ,, dubia, p. 227 [390]	*																			Species undetermined.
163. ,, mongolica, p. 227 [390]	*										*	*					*		*	N. Asia, China.
164. Esacus magnirostris, p. 227 [390]	*									*		*							*	
165. Himantopus autumnalis, p. 228 [390]		*																		China.
166. ,, leucocephalus, p. 228 [391]							*			*	*	*	*		*	*	*		*	
167. Glareola orientalis, p. 228 [391]					*						*	*			*	*	*		*	China, Formosa, Bangka.
168. Porphyrio pulverulentus, p. 228 [391]	*																			
169. Gallinula chloropus, p. 229 [391]		*														*				China, Formosa.
170. Gallicrex cinerea, p. 229 [392]		*									*	*				*				S. China, Formosa, Ceylon.
171. Erythra phœnicura, p. 229 [392]							*			*	*	*		*		*				S. China, Formosa, Ceylon.
172. Ortygometra cinerea, p. 230 [392]	*									*	*	*		*	*	*	*		*	
173. Porzana pygmæa§, p. 230 [392]	*															*				China, Japan, Ceylon.
174. ,, fusca, p. 230 [393]	*										*	*	*			*				Ceylon.
175. Rallina fasciata, p. 231 [393]		*									*	*	*	*						
176. Amaurornis olivacea, p. 231 [393]		*																		
177. Hypotænidia torquata, p. 231 [394]		*																		
178. ,, philippensis, p. 231 [394]	*									*							*	*		
179. ,, striata, p. 232 [394]		*								*	*	*		*		*				China, Formosa, Ceylon.
180. Hydrophasianus chirurgus, p. 232 [394]		*										*				*				China, Formosa, Ceylon.
181. Numenius phæopus, p. 232 [395]								*		*	*	*				*	*		*	China, Formosa, Japan, Ceylon.
182. Rhyacophilus glareola, p. 233 [396]		*								*	*	*		*		*				Japan, Ceylon, China.
183. Tringoides hypoleucos, p. 234 [396]		*								*	*	*		*		*	*		*	China, Formosa, Japan, Ceylon.
184. Totanus calidris, p. 234 [396]	*									*	*	*		*		*				China, Ceylon.
185. ,, glottis, p. 234 [396]		*								*	*	*				*	*		*	Asia.
186. Tringa ruficollis, p. 234 [397]		*								*	*	*				*				China, Formosa, Siberia, Ceylon.
187. Gallinago scolopacina, p. 235 [397]		*														*				China, Formosa, Japan.
188. ,, megala, p. 235 [397]		*								*									*	China, Formosa, Siberia.

Tr. Z. S. ix. p. 252.

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† [The Negros bird is *M. eurycerca*, Tw.—Ed.]

‡ [Stands as *M. dillwynni*, Tweeddale, P. Z. S. 1877, p. 766. *M. cumingi*, Dillwyn, is a different species from Labuan.—Ed.]

§ [Stands as *P. bailloni*, Vieill.—Ed.]

Species.		Philippines.																		
		Luzon.	Panay.	Guimaras.	Negros.	Zebu.	Mindanao.	Cujo.	Catagnan.	Celebes.	Borneo.	Java.	Sumatra.	Malay peninsula.	Timor.	India.	Australian Region.	Polynesian Region.	Papuan Subregion.	
189. Rhynchæa capensis, p. 235 [*anteà*, p. 398]	*										*	*	*	*		*				China, Formosa, Japan, Ceylon.
190. Ardea purpurea, p. 236 [398]		*									*	*	*			*				China, Japan.
191. Ardetta flavicollis, p. 236 [398]	*										*	*	*		*	*	*		*	China, Asia.
192. ,, cinnamomea, p. 237 [399]	*										*	*	*			*				China, Formosa, Ceylon.
193. ,, sinensis, p. 237 [399]	*									*	*	*				*				China, Formosa, Ceylon.
194. Bubulcus coromanda, p. 237 [399]		*									*	*			*	*			*	S. China, Formosa, Japan, Ceylon.
195. Herodias garzetta, p. 237 [399]		*								*	*	*				*	*		*	Ceylon.
196. ,, intermedia, p. 237 [400]	*										*	*				*	*			China, Japan, Ceylon.
197. Butorides javanica, p. 237 [400]		*			*					*	*	*			*	*	*	*	*	S. China, Formosa, Japan, Ceylon.
198. Nycticorax manillensis, p. 238 [400]		*																		
199. ,, griseus, p. 238 [400]		*								*	*	*				*				Asia.
200. Gorsachius melanolophus, p. 238 [401]	*											*	*	*						Ceylon, Tenasserim.
201. Querquedula multicolor, p. 242 [404]		*																		
202. Anas luzonica, p. 242 [404]		*																		
203. Dendrocygna vagans, p. 242 [404]		*								*		*					*	*	*	
204. Nettapus coromandelianus, p. 243 [404]		*										*				*				Ceylon.
205. Puffinus leucomelas, p. 243 [405]									*											Japan.
206. Larus, sp., p. 243 [405]		*																		Species undetermined.
207. Hydrochelidon leucopareia, p. 244 [405]		*								*	*	*				*	*			Formosa, Asia.
208. ,, sp., p. 244 [406]		*																		Species undetermined.
209. Onychoprion anæsthetus, p. 244]406]			*							*	*	*	*	*		*	*	*	*	China, Ceylon.
210. Anous stolidus ?, p. 244 [406]	*																			Species undetermined.
211. Podiceps philippensis, p. 245 [406]	*																			Species undetermined.
212. Pelecanus roseus, p. 245 [407]		*																		Species undetermined.
213. ,, philippinensis, p. 246 [407]		*										*		*		*				China.
214. Dysporus sula, p. 246 [407]							*			*	*	*	*	*		*	*	*	*	China, Formosa.
215. ,, piscator, p. 246 [408]	*											*				*	*	*	*	S. China.
216. Phalacrocorax, sp., p. 246 [408]	*																			Species undetermined.
217. ,, ,, ,, p. 246 [408]		*																		Species undetermined.
218. Plotus melanogaster, p. 247 [408]		*			*					*	*	*	*			*				Ceylon.
Total	57	133	9	27	38	18	19	5	2	47	62	75	46	50	16	69	24	11	31	

Descriptions of some undescribed Species of Birds discovered by Lieutenant Wardlaw Ramsay in Burma. By Arthur, Viscount Walden, P.Z.S., F.R.S. [From the 'Annals and Magazine of Natural History,' ser. 4, vol. xv., June 1875.]

A. M. N. H.
ser. 4, vol. xv.
p. 400.

Megalæma ramsayi, n. sp.

The broad superciliary stripe composed of silvery-grey-centred feathers, giving a streaked appearance to the supercilium. Otherwise plumage and dimensions of *M. franklini*.

I have compared a large series of typical examples of *M. franklini* from Darjeeling and Asalu with a considerable series of this form obtained by Lieutenant Wardlaw Ramsay, at altitudes varying from 2000 to 4000 feet, in the Karen-nee hills. That gentleman records the iris as being "nut-brown; bill black, basal portion of maxilla and lower part of mandible slate-colour; legs dirty greenish white." Sexes alike.

ÆTHOPYGA SANGUINIPECTUS, n. sp.

Above as in *Æ. saturata* (Hodgs.), the yellow band on the rump being somewhat more developed. Underneath, all the chin, throat, and two streaks diverging from the throat and descending to the breast metallic violet-blue; upper part of breast velvety black; remainder of under surface pale yellow, many of the lower breast-feathers being centred and streaked with blood-red. A representative form of *Æ. saturata.*

Bill 0·65 inch, wing 2·12, middle pair of rectrices 3·25.

A. M. N. H. ser. 4. vol. xv. p. 401. Described from six examples discovered and obtained by Lieutenant Wardlaw Ramsay on the Tonghoo and Karen-nee hills* at an elevation of 3000 feet.

DICÆUM OLIVACEUM, n. sp.

Above olive-green, the occipital feathers centred with pale brown, and those of the uropygium a few shades brighter green; rectrices black; below and lores cinereous, with a pale yellowish tinge, and the flanks with pale olive-green; quills brown, edged externally with olive-green of a rather brighter shade than that of the upper plumage.

Wing 1·75 inch, tail 1·7, tarsus 0·43, bill from forehead 0·38.

Described from four examples obtained by Lieutenant Wardlaw Ramsay on the Tonghoo and Karen hills. It only differs from *D. pygmæum* (♀) by having the uropygium and upper tail-coverts brighter yellowish green, and the under tail-coverts a purer yellow; from *D. virescens* by wanting an albescent or pale grey throat and breast and the yellow abdomen.

IXUS ANNECTENS, n. sp.

Forehead, crown, and nape cinereous brown, each feather edged with golden olive-green, imparting an almost golden olive-green hue to those parts; interscapular region and back cinereous brown, tinged with olive-green, which colour is more intense on the rump; upper tail-coverts golden olive; primaries brown, edged with bright golden olive; major and minor coverts and secondaries dull olive-green; shoulder-edge, under shoulder-coverts, thigh-coverts, ventral region, and under tail-coverts bright yellow; chin and throat cinereous brown, most of the feathers with golden-yellow centres, imparting a streaked appearance, a few descending to the upper breast; flanks and remainder of lower surface cinereous brown; ear-coverts brown.

"Length 7·7 inches, tarsus 0·75, wing 3·3, tail 3·1, bill 0·85. Iris pale yellow; bill dark horny; legs leaden brown" (*Wardlaw Ramsay*).

Described from an individual obtained by Lieutenant Wardlaw Ramsay at Rangoon. His dimensions were taken from the fresh specimen. It is nearly allied to, though perfectly distinct from, *I. finlaysoni.*

DRYMOCATAPHUS FULVUS, n. sp.

Above fulvous brown; feathers of head, nape, and back pale-shafted; lores, chin, throat, A. M. N. H. ser. 4. vol. xv. p. 343. breast, thigh-coverts, sides of neck, and under tail-coverts pale rusty fulvous; rectrices, outer edging of primaries and secondaries, and all the tertiary quills pale liver-brown.

Wing 2·50 inches, tail 2·12, tarsus 1, bill from forehead 0·65; bill and legs, in dried skin, and claws pale fulvous. A typical form.

Karen-nee, at an elevation of 2500 feet (*Wardlaw Ramsay*).

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* [" Tonghoo hills (Karen-hee)", *errore* in orig.—ED.]

TRICHASTOMA RUBIGINOSA, n. sp.

Underneath lively chestnut-red; mesial line from chin to breast, also of abdomen, white; above dingy olive-brown, somewhat tinged with ferruginous; remiges and rectrices pale brown, outer edges of quills ferruginous; inner edges of quills pallid rusty; lores grey.

Wing 3 inches, tarsus 1·38, tail 2·50, bill from forehead 0·94.

"Iris light brown to blackish brown; bill above pale (horny), below yellowish at gape; legs dull pinkish white. Karen-nee" (*Wardlaw Ramsay*).

Described from an example marked a female.

ACTINURA RAMSAYI, n. sp.

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Under surface from chin to vent clear ochreous buff, somewhat darker on the chin and throat; upper surface cinereous olive; forehead almost ferruginous; crown and crest, with the nape, like the back, but tinged with ferruginous; most of the dorsal feathers traversed by faint, yet distinct, narrow dark brown bands or lines, which on the upper tail-coverts are more closely set together and very conspicuous; lores and cheeks dark brown, almost black; sides of the head behind the eyes and some of the lateral crest-plumes ashy, without any ferruginous tinge; eyelids white; primaries narrowly barred with black on their outer webs up to their insertion, also the minor coverts; all the rectrices olive-brown, like the tertiaries, and distinctly barred with numerous well-defined narrow black bands; all but middle pair broadly tipped with white; under tail-coverts and flanks somewhat darker than remainder of under surface.

Wing 3·50 inches, tarsus 1·12, tail 5, bill from forehead 0·87.

"Iris light hair-brown, bill horny brown, legs slaty brown. ♀. Karen-nee*" (*Wardlaw Ramsay*).

This is a representative form of *A. egertoni*, from which it chiefly differs by its light ochreous under surface, by the colouring of the upper plumage, by the primaries being barred throughout their length, by the minor coverts being barred, and by the distinct barring of the tail.

A. M. N. H.
ser. 4, vol. xv
p. 403.

POMATORHINUS MARLÆ†, n. sp.

A stripe commencing at the nostril, and which passes back over the eye and down the sides of the neck, white, but partly rusty fulvous near the nostril; above this white stripe, and bordering its length, a narrow black stripe; all the head within the boundaries of the superciliary black stripe and the nape dark rusty olive; rest of upper surface dull olive-brown, with a rusty tinge; lores, cheeks, and ear-coverts black; chin and throat pure white; flanks, thigh-coverts, and under tail-coverts pale earthy brown, with a rusty tinge; breast and abdominal region pale creamy white or pale buff, contrasting with the pure white throat; quills and rectrices liver-brown.

Wing 3·50 inches, tail 4·25, tarsus 1·12, bill from forehead 1·18.

Described from an individual marked a female, and obtained in the Tonghoo hills by Lieutenant Wardlaw Ramsay. *P. phayrei* is its nearest ally; but in it the entire under surface from the chin is bright ferruginous; it likewise has the entire upper surface of an almost uniform dull olive-brown, with but a faint ferruginous tinge.

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* [At Kyai-pho-gyee.—ED.]

† [=*P. albigularis*, Blyth.—ED.]

A. M. N. H. ser. 4, vol. xvi. p. 228

Description of a new Species of Pigeon from the Karen Hills. By ARTHUR, Viscount WALDEN, P.Z.S., F.R.S. [From the 'Annals and Magazine of Natural History,' ser. 4, vol. xvi., September 1875.]

DUCULA GRISEICAPILLA, n. sp.

Chin and throat pure white; remainder of lower surface pale grey, the breast being tinged with lilac; back of neck vinous; interscapulary region brown with a vinous tinge; wing-coverts brown, like the back, but not so strongly tinted with vinous; quills dark brown, almost black; uropygium and upper tail-coverts dark ash; rectrices above dark brown, with a broad grey terminal band; lower surface of rectrices pale grey; under tail-coverts pale cream-colour; forehead, crown, nape, cheeks, and ear-coverts pure French grey.

Wing 9·5 inches, tail 8·5, bill from forehead 1, tarsus 1, middle toe 1·75.

"Iris (♀) greyish white; orbits grey-brown; bill reddish plum-colour, pale at tip" (*Wardlaw Ramsay*).

Described from examples obtained by Lieutenant Wardlaw Ramsay on the Karen hills*, at from 4000 to 4200 feet. A representative form of *D. insignis* and *D. badia.*

Ibis, 1875, p. 458.

Notes on Birds from Burma. By ARTHUR, Viscount WALDEN, F.R.S. [From 'The Ibis,' October 1875.]

IN a supplementary number of the 'Journal' of the Asiatic Society of Bengal will be found a list of the birds of Burma, compiled by the late Mr. Blyth. Since it was written three gentlemen have very materially increased our knowledge of the species of birds which inhabit that part of Asia. Upper Pegu has been most zealously and successfully investigated by Mr. Oates; and the results of that gentleman's discoveries, and also those of Captain Feilden, have been made known by Mr. Hume (Str. Feath. iii. pp. 1–194) in a paper containing numerous most useful and interesting field-notes by those gentlemen. Large collections have been made at many points in the northern half of Tenasserim by Mr. Davison, a bare list of the birds obtained having been published by Mr. Hume (*op. cit.* ii. pp. 467–484). In the province of Tonghoo, and in the country of the Karens, Lieutenant Wardlaw Ramsay, after working the vicinity of Rangoon, has, for some time past, been vigorously collecting. Several new species have been
Ibis, 1875, p. 459.
discovered by him; and many species not known to possess so extended a range have, through his exertions, been added to the Burmese avifauna. The researches of all the gentlemen I have named enabled me to considerably extend the list of Burmese species as left by Mr. Blyth, and to raise the number of actually known species to about 660. Since the last sheet of this revised list was in the hands of the printers, another large collection, made in the Tonghoo and Karen

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* [At the Cincona plantations about 16 miles east of Tonghoo.—ED.]

hills by Lieutenant W. Ramsay, has reached me, containing some more species new to Burma. Upon these I desire to offer a few remarks.

In the Karen hills Lieutenant W. Ramsay had already discovered a number of Himalayan forms, such as *Batrachostomus hodgsoni*, two species of the genus *Niltava*, *Neornis assimilis*, a new species of *Actinura*, *Sibia picaoides*, *Cutia nipalensis*, a species of *Lioptila*, several species of *Liothrix* and affined genera, also of *Stachyrhis*, *Orthotomus coronatus*, two species of *Paradoxornis*, and *Saraglossa spiloptera*. He has also discovered the following species:—

MACROPYGIA LEPTOGRAMMICA (Temm.)=*M. tusalia* (Hodgson).

One example was obtained on the Karen hills at 4000 feet elevation; another on the Tonghoo mountains* at 3500 feet. These and Himalayan individuals (♂) are certainly not separable from the Javan (♂) form. With Javan female birds I have not been able to institute a comparison. Professor Schlegel seems, on the other hand, not to have had Himalayan females to compare with Javan (Mus. Pays-Bas, *Columbæ*, p. 108).

DUCULA GRISEICAPILLA, nobis, Ann. & M. N. H. (4) vol. xvi. p. 228 (Sept. 1, 1875)†,

is a species distinct from, though nearly allied to, *D. insignis* and *D. badia*, discovered on the Karen hills at an elevation of from 4000 to 4200 feet. The distinctive character of the Tenasserim bird was mentioned by Mr. Blyth (J. A. S. B. xxviii. p. 416); but he does not appear to have ever named the species.

ARBOROPHILA BRUNNEIPECTUS (Blyth).

Several examples of this Wood-Partridge have been recently obtained by Lieutenant W. Ramsay in the Karen hills at 4000 feet elevation. It has also been found by that gentleman and by Mr. Oates in the Tonghoo hills‡. An interesting note relating to it by the latter naturalist will be found in 'Stray Feathers' (iii. p. 174). In some examples the feathers on the upper part of the breast are crossed by two conspicuous narrow black bands, or by one broad one. In others the breast-plumage appears of a uniform tawny rufous; but when the feathers are pushed aside, many of them will be found to be broadly marked with dark brown.

Ibis, 1875, p. 460.

GAMPSORHYNCHUS RUFULUS.

Adult males of this species, obtained by Lieutenant W. Ramsay on the Tonghoo hills, in no respect differ from Darjeeling birds and others from the Garo hills &c. But some female examples he obtained in the Karen hills exhibit a mixture of brown and white feathers on the nape, suggesting apparently a state of transition from the young to the adult plumage. One of these has also a narrow rufous collar, which separates the white throat from the tawny breast-plumage. In another this collar is merely indicated at the sides of the neck, the white gular plumage being continuous with that of the breast, which is white. On examples in this state of plumage *G. torquatus*, Hume (Str. Feath. ii. p. 446), appears to have been founded.

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* [At Laik-tho.—ED.]

† [*Antea*, p. 416.—ED.]

‡ [Pegu Yoma hills.—ED.]

PSARISOMUS DALHOUSIÆ.

On two examples of this Broad-bill, obtained by Mr. Oates near Thyet-myo, Mr. Hume has based a new title, *P. assimilis* (Str. Feath. iii. p. 53). The characters relied on are trifling differences of extent and of shade in the colour of some of the head- and neck-markings Lieutenant W. Ramsay procured many examples of the bird in the Tonghoo and Karen hills. The greatest care has been taken by him in the preparation of the skins, which are excellent specimens of skilful taxidermy. Several of these examples are absolutely identical with others from Nepal, Darjeeling, North Cachar, Assam, &c. The broad yellow band edged with silvery white is most conspicuous in a Karen individual. A Nepal bird has the patch behind the eye of the same hue as another from the Karen hills. And in a bird from Asalu the white pearly band separates the whole of the golden-yellow throat from the green breast. Ibis, 1875, p. 461.

The markings and shades of colour vary considerably in this handsome Broad-bill. In some the broad yellow band on the sides of the neck is interrupted on the nape by a patch of blue; in others this patch of blue has a yellow patch above it. When the patch behind the eye is not pure yellow, but greenish or bluish yellow, the yellow plumes of the chin, and of the lores, and those which form the narrow frontal band, are generally more or less tinged with green. In the young bird the whole throat and the space before the eye is light green. The crown is dark green, uniform with the back, while those markings which eventually become golden, are sketched-in in pale yellow. No blue, excepting on the quills, and a tinge on the middle rectrices, is developed; nor is there a trace of silvery white. On the whole we may safely relegate *P. assimilis* to the limbo of unnecessary synonyms.

CALORNIS AFFINIS.

Another title, *Calornis irwini*, Hume (Str. Feath. i. p. 481), falls within the same category of useless synonyms. Mr. Hume asks (*l. c.*), Was *C. affinis* described from Malacca? It was described (J. A. S. B. xv. p. 36) as a species distinct from the Malaccan *C. cantor*=*C. insidiator*, and was stated to inhabit Tipperah, Arracan, Tenasserim (?), and the Nicobars. Mr. Blyth, who did not admit the distinctness of the Nicobar *Calornis*, recently, with the Andaman entitled *C. tytleri*, Hume (*l. c.*), added that locality to those of Tipperah and Arracan. Tenasserim he noted with doubt, because Mr. Barbe had informed him that the Tenasserim species was the same as the Malaccan (*tom. cit.* p. 375, note). Notwithstanding, the Tipperah bird has again received a title from Mr. Hume.

ALCEDO BEAVANI.

Alcedo rufigastra, Walden, Ann. Mag. N. H. (4) xii. p. 487 [*anteà*, p. 252].
Alcedo beavani, Walden, *op. cit.* (4) xiv. p. 158 [*anteà*, p. 289].

A single example of this Kingfisher was obtained by Lieutenant W. Ramsay at Tonghoo. Probably it is the species catalogued by Mr. Blyth in his list under the title of *A. asiatica*; for there is no trustworthy evidence in favour of Javan *A. meningting*, Horsf.,=*A. asiatica*, Swains., occurring north of the Malaccan peninsula. Since Captain Beavan first obtained *A. beavani* Ibis, 1875, p. 462.

in Maunbhoom, it has been found in the Andamans, in Tenasserim, in the Bhootan Doars, the Rajmahal hills in Tipperah, in Cuttack, and in Siam.

On a former occasion (Ann. N. H. (4) x. p. 61[*]) I ventured to assert that certain Javan birds reappeared in Burma, some penetrating so far as Nepal, although they were not known to inhabit Malacca or Sumatra. The want of an authentic record of all the Malaccan and Sumatran birds prevents me from advancing this assertion as a demonstrated fact. Nor am I able to state at what part or parts of the Malaccan peninsula these Javan forms severally reappear. But in order that the assertion may be tested by others more familiar with Indian and Indo-Malayan birds, the subjoined lists have been prepared of the principal Javan genera and Javan species which, while occurring in Burma, and in some instances in regions to the west or east of that country, are not known to me as inhabitants of either Malacca or Sumatra.

Even should these lists stand the test of a rigid scrutiny, they are not offered as part of the basis of any zoo-geographical theory, but are merely intended as a small contribution to our knowledge of distribution. The presence or absence of certain Sumatran or Malaccan birds in Burma present equally perplexing phenomena; while, again, some Javan species are common to Java, Malacca, and Burma.

List of the Javan genera not known to occur in Malacca and Sumatra, but found in Burma:—

[†]*Brachypteryx.*
Analcipus.
Cochoa.
Myiophonus.
Bhringa.
Dendrophila.
Sturnopastor.
Crypsirhina.
Pavo.

To these may perhaps be added

Zoothera.
Pterythrius.
Allotrius.

List of Javan species not known to occur in Malacca or in Sumatra, but found in Burma:— Ibis, 1875, p. 463.

Butastur liventer.
Dendrotypes analis.
Henicurus leschenaulti (*fide* Hume).
[‡]*Dendrophila frontalis.*
Timelia bengalensis (representative form).
Megalurus palustris.
Hyloterpe grisola.
Buchanga intermedia (representative form).
Buchanga atra (representative form).
[§]*Macropygia leptogrammica.*
Harpactes orescius.
[§]*Crypsirhina varians.*
[§]*Bhringa remifer.*
Pavo muticus.

Besides the many Himalayan forms already noted, which Lieutenant W. Ramsay had enabled me to add to the list of Burmese birds, are several which have hitherto been ranked as peculiarly belonging to China or else Siam. Such, for instance, are *Gecinus erythropygius*, *Æthopyga dabrii*, *Pycnonotus atricapillus*, *Acridotheres siamensis*, and *Parus commixtus*.

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[*] [*Antea*, p. 217.—Ed.]

[†] [All the undermentioned genera except *Pavo*, *Zoothera*, and *Allotrius* have since been obtained in Sumatra, and *Brachypteryx* and *Dendrophila* at Malacca.—Ed.]

[‡] [Since found in Malacca.—Ed.]

[§] [Since found in Sumatra.—Ed.]

The word Burma cannot, however, in any sense be used to express a well-defined zoological province or subprovince. In Mr. Blyth's list it is employed for all those regions which formerly constituted the Burmese empire, three of which, within the last fifty years, have been ceded to Great Britain (namely, Arracan, Tenasserim, and Pegu). It is bordered by countries possessing ornithological features more or less peculiar; and where the Burmese territory comes in contact with any one of these countries, it is, as might be supposed, more or less peopled by their characteristic forms. But the presence of peculiar Javan forms, unknown in Malacca or Sumatra, if it be a fact, is a marked characteristic, which cannot be accounted for by contact of present boundaries.

1876.

Ibis, 1876, p. 133.

Letter showing that only one Species of Artamus *is known to inhabit the Philippine Islands, from* Viscount WALDEN, F.R.S., *to the* EDITOR *of* 'THE IBIS' (January 1876).

SIR,—In a recent article on the birds of the Pelew Islands (Journ. Mus. Godeffroy, pt. viii. p. 18), Dr. O. Finsch leaves it to be inferred that the Philippines are inhabited by two distinct species of the genus *Artamus*. One species (which he identifies as being the true *Lanius leucorhynchus*, L.), Dr. Finsch states, is restricted to the Philippine and Pelew groups of islands. The second, according to the same author, is *Artamus leucogaster*, Valenc., and is said by Dr. Finsch to be common to both the Philippine and the Sunda Islands. The closely allied New-Caledonian species of the genus, *A. melaleucus* (Forst.), Dr. Finsch considers specifically distinct from the Pelew form.

Ibis, 1876, p. 134. In a former paper on the birds of the Pelew Islands (P. Z. S. 1868, pp. 116, 117), Drs. Hartlaub and Finsch had already asserted in positive terms that the Philippines were inhabited by two distinct species of *Artamus*. On this assertion I ventured some remarks in my memoir on the birds of the Philippine Archipelago (Tr. Z. S. ix. p. 174*). But as Dr. Finsch, in his more recent paper (*l. c.*), still identifies the Pelew form with *A. leucorhynchus* of the Philippines, while treating the Pelew bird as a species distinct from the *Artamus* of the Sunda Islands, it becomes necessary to review the grounds on which this identification rests. It is not primarily a question of correct title that has to be decided, but one of fact. Is there any trustworthy evidence of the Philippines possessing two species of *Artamus*, the one identical with the species found in the Sunda Islands, the other with that confined to the Pelew Islands? As to there being two Philippine species, it is true that, while Brisson described and figured (Ornithologia, ii. p. 180, t. xviii. f. 2) a species of the genus from a specimen obtained in the vicinity of Manilla, preserved in Aubrey's cabinet, Sonnerat again separately described and figured a species observed by him in the Philippines (Voy. N. Guin. p. 55, t. 25). Sonnerat mentions that his species was the one described by Buffon (Hist. Nat. i. p. 310) under the title of *Pie-grièche des*

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* [*Anteà*, p. 339.—ED.]

Philippines. Sonnerat's erroneous quotation of the title used by Buffon need not now have been alluded to, were it not that Buffon really employed as the title part of the native name given by Brisson, and called it *le Langraien*, and nowhere does Buffon use the title attributed by Sonnerat. Buffon's account (for it cannot be called a description) is taken from Brisson; and he quotes the volume and page of the 'Ornithologia.' As Sonnerat identified his species with that of Buffon, and as Buffon manifestly refers to Brisson's species, we may assume that the same species was understood by all three authors. Gmelin (S. N. i. p. 305), by adopting the Linnæan title for Brisson's species, with which he associated that of Buffon, and by bestowing (*t. c.* p. 307) a separate title on Sonnerat's bird, was the first author who suggested the idea of the Philippines (or rather the vicinity of Manilla) being inhabited by two distinct species of *Artamus*. If we turn to the two original descriptions, we certainly find a discrepancy. For the dark-coloured part of his species Brisson uses the word blackish (*nigricante*), whereas Sonnerat describes those portions of the plumage as being black (*noir*). Gmelin (*l. c.*) correctly adopts these distinctions in his description of *L. leucorhynchus* and of *L. dominicanus*. If we refer to the plates, the shading of Brisson's figure may be said to be consistent with his description; Sonnerat's plate represents the dark plumage as being inky black. The bird depicted by D'Aubenton (Pl. Enl. 9. f. 1) also has the dark parts of the plumage coloured jet-black. A comparison of dates renders it impossible that D'Aubenton could have figured from Sonnerat's specimen; and the presumption is strongly in favour of his having had Brisson's type before him; and the title affixed by him, *Pie-grièche de Manille*, is the one first employed by Brisson. Buffon cites the plate as representing his *Langraien*; and, as already stated, Sonnerat relates that his Philippine example belonged to the species mentioned by Buffon.

Ibis, 1876, p. 135.

If these discrepancies had been relied on by the older authors (not Gmelin, for he was merely an indiscriminating compiler) as differentiating two Luzon species of *Artamus*, I would hesitate before asserting that they had described from examples of the same species. But Dr. Finsch in no way relies on these discrepancies. Dr. Finsch takes his stand on *Lanius manillensis*, Briss. (=*L. leucorhynchus*, L.), described as being blackish, and unites the jet-black bird of Sonnerat, *L. philippensis*, Scop. (=*L. dominicanus*, Gm.), with it, and refers the Pelew bird to them. If there are two species of *Artamus* in the Philippines, one very dark-coloured, the Pelew bird, the other lighter-coloured, the species of the Sunda Islands, the first must be Sonnerat's (*L. dominicanus*, Gm.), the other Brisson's (*L. leucorhynchus*, L.). But Dr. Finsch also unites with the Pelew bird *Ocypterus leucorhynchus*, Temm., apud Kittlitz, "von den Sunda-Inseln," although Kittlitz states (Kupfert. p. 29) he saw the same (that is, the Sunda-Islands bird) in Luzon. The figure given by Kittlitz (*op. cit.* t. xxx. f. 1) certainly represents the light-coloured known Philippine species—that is, the *Artamus* of the Sunda Islands. The Pelew bird is also referred by Dr. Finsch to the *Ocypterus leucorhynchus*, Cuv., of Hahn (Vög. aus As., Afr. &c. pt. xix. t. 2); and the plate is characterized as excellent. Hahn's figure represents all the dark plumage jet-black; but he describes the head, neck, wings, and tail as being slate-grey, and the back only as sooty black. Although styled a "*figura optima*" by Dr. Finsch, the upper tail-coverts in Hahn's plate are coloured black instead of white. Hahn gives the East Indies, especially Java, as the range of the species he describes and figures.

Ibis, 1876, p. 136.

Now, putting aside the fact that there is no known species of *Artamus* whose dark shade of colouring is nearly so intensely black as that depicted by D'Aubenton, by Sonnerat, and by Hahn, not even the Pelew species, there is the still more convincing fact that there is no record of any author having ever seen authenticated Philippine examples of two species of *Artamus*. Dr. Finsch (*in epist.*), kindly replying to my queries on this point, informs me that he has never seen authenticated Philippine examples of more than one species; and they belonged to the Sunda-Islands form, *A. leucogaster*, Valenc. If, then, examples of a second Philippine species are unknown, and if, as is admitted by Dr. Finsch, the species which is known to inhabit the Philippines, and especially Luzon, is identical with that of the Sunda Islands, this last must take the Linnæan title of the Philippine bird. In this view the synonymy of the species as set forth by me in my memoir on the birds of Celebes (Tr. Z. S. viii. p. 67 *) will, I think, be found correct. My excuse for writing to you now so fully on the subject is not only because so distinguished an ornithologist as Dr. Finsch has differed from this interpretation of the facts, but because another most accurate naturalist, Count Salvadori, after accepting my views in his meritorious work on the birds of Borneo, has since adopted, in his notes on some Celebean birds (Ann. Mus. Civ. St. Nat. Genova, vii. p. 16), those of Dr. Finsch. If the Pelew species of *Artamus* specifically differs from *A. melaleucus* (Forst.), it would appear to require a distinctive title.

I remain, yours, &c.,

Chislehurst, December 1875. WALDEN.

Ibis, 1876, p. 336.

Notes on the late Colonel Tickell's manuscript Work entitled "Illustrations of Indian Ornithology."

By ARTHUR, Viscount WALDEN. [From 'The Ibis,' July 1876, Plates IX., X. *in orig.*]

AMONG the books of the Zoological Society's library is to be found the manuscript work alluded to. It was presented to the Society by the late Colonel Tickell in 1874 †, failing health and obliterated sight having prevented him from carrying out the cherished object of his later years, its publication. On Colonel Tickell's career as an ornithologist it is not my intention now to enter. An obituary by an old friend was published last year ‡. Suffice it to say that he belonged to that band of zoologists who, more than forty years ago, commenced in India the then much neglected study of natural history, and who worshipped as simple and single-minded devotees in the temple of nature, and not for their own self-glorification. Beyond a couple or so of papers §, I am not aware that he published in any scientific periodical any observations on birds. His collections were generally sent to Blyth at Calcutta, some of the examples with MS. titles attached, under which that able zoologist usually made them known in the pages of the

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* [*Anteà*, pp. 168, 169.—ED.]

† P. Z. S. 1874, p. 667.

‡ 'Field' newspaper, June 1875.

§ J. A. S. B. 1833, pp. 569–583, 1859, pp. 448–456; Ibis, 1864, pp. 173–182. His later articles in the 'Field,' subscribed with the pseudonym of "Ornithognomon," are probably well known to the readers of the 'Field.'

'Proceedings' of the Asiatic Society of Bengal*. Being gifted with a ready pencil and a facile brush, Colonel Tickell, in some instances, made coloured drawings of the animals he secured; and in the course of time he had accumulated many drawings, together with copious notes relating to the species he had captured or observed. Some of his first efforts were lost, including several sketches without which, it is to be feared, one or two of his earlier species must remain unidentified. A part of the materials he brought to England were thrown together, and form the work to which I now propose to call attention. The original intention seems to have been to make his proposed work a complete history of Indian ornithology; but illness and other circumstances prevented this laudable object from being attained; consequently the *Gallinaceæ*, the *Grallæ*, the *Anseres*, and, among the *Insessores*, the *Sylviidæ*, the *Paridæ* and kindred genera, and the *Conirostres* are wholly wanting†. Ibis, 1876, p. 337.

The work consists of seven small folio volumes, the titlepage of each being printed, while the whole of the letterpress is most neatly written by hand. The characters of the orders, families, and genera Colonel Tickell adopts are given in detail; and each genus is illustrated by accurately drawn outlines showing, in most instances, the bill, feet, and wing-structure. These outlines are drawn with the very greatest care, and in each case to scale, and not by eye alone. Every species personally known to the author is figured; and many of the plates are works of art. It may be affirmed that nearly all are good, and that many are almost perfection. While the ornithological characters of nearly every species are accurately rendered, the attitude of each bird discloses how well Colonel Tickell observed and how closely he studied nature. The attractiveness of the plates is moreover much enhanced by the backgrounds in which the figures are set. A knowledge of the haunts and habits of each species can almost be acquired by studying the accessories of each figure. Every plate is a highly finished landscape, true to nature, often enlivened by scenes from every-day life in India, either in the plains or in the jungle, in town or in cantonments. After the monotonous uniformity of the conventional backgrounds of illustrated English ornithological works, it is a relief and a pleasure to find every bird surrounded by real leaves, pecking at real flowers, or climbing real trees, or with real Indian buildings and Indian animals in the distance. Ibis, 1876, p. 338. The drawing of *Milvus govinda* sitting on the cornice of a town house, that of *Hirundo javanica* clinging to its nest under the eaves of an up-country bungalow, or that of *Hirundo erythropygia* skimming over the marsh where a sportsman has just dropped a Snipe, startling the black buffaloes in the foreground, may be cited, at random, as instances of the artist's art. But as if his beautiful drawings were not a sufficient adornment to the work, Colonel Tickell has appended to most of the pages descriptive of the genera small oval vignettes, done in Indian ink, illustrating the customs and ways of the people, the incidents of an Indian officer's life in quarters, in camp, and on the march, out shooting or out visiting, bits of nature in the jungle, a tiger creeping up to children by the river-side, a wild elephant wading down a shallow stream by moon-light, scene after scene recalling to the Anglo-Indian at home memories of his Indian sojourn. In some, tragic subjects are vividly depicted:—a victim of jealousy, the body of a woman lying on the ground hacked with many tulwar-cuts, an infant by the dead mother's side, the pompous Kutwal, surrounded by officials, making his investigations; a Meriah, a human sacrifice, the victim tied to a post, head hanging down, men and women tearing and cutting the flesh off the still living body. In other scenes a keen sense of humour is displayed:—an officer just arrived at a sporting rendezvous in the jungle, some fifteen miles away, and the shikarree addressing him, "Your Lordship! cherisher of the poor! governor of the country! you are my father! you are God himself! The powder is forgotten" *.

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* Not always. *Conf.* Tickell, Ibis, 1863, p. 111.

† While this paper was passing through the press I was favoured by General Boyd and the Rev. E. A. Tickell with an opportunity of examining all the original drawings and notes in their possession from which Colonel Tickell elaborated the more complete work under notice. They are bound up in two folio and three quarto volumes, and comprise notices and coloured drawings of many more species than are to be found in the Zoological Society's copy, many of them relating to birds belonging to the orders and families there omitted. I have not had time to thoroughly examine these volumes, but a cursory inspection has satisfied me that an account of their contents may be of use and interest to ornithologists.

Some ninety-four of these clever sketches are scattered through five of the seven volumes; two Ibis, 1876, p. 339. hundred and sixty plates of birds, and seven plates containing figures of the eggs of forty-two species, complete the illustrations. The notices of species, of which the letterpress mostly consists, may be divided under two heads—descriptions and accounts of those species known to Colonel Tickell, and descriptions of species unknown to him and copied from other authors. On these last I do not propose to observe; but I will endeavour to give a general idea of those parts of the work which are original. Want of space prevents my doing justice to all the plates, or to the many interesting accounts of habits which render the work so valuable. Indeed, if I only succeed in drawing the attention of ornithologists to the work itself, my principal object will have been attained. It is a sad reflection that ill health prevented so much patient industry, so much unostentatious labour, so much artistic skill, so much enthusiasm in the good cause, so great a fidelity to nature, from being rewarded with that universal approbation publication would undoubtedly have secured.

The first two volumes embrace respectively the RAPTORES DIURNI and the RAPTORES NOCTURNI. On forty-one plates, contained in volume i., are depicted the better-known Indian and Burmese species of Accipitres; but, with the exception of *Limnaëtus kieneri* and *Falco peregrinator*, none of the rarer forms are delineated. Six species of Vultures are admirably figured. *Otogyps calvus* is stated to occur as commonly in Arracan and Burma as in Central India and the Madras Presidency, *Gyps indicus* to be common in Burma, and *Gyps bengalensis* spread all over that country.

Aquila imperialis (*heliaca*), ♀ ad. and young in its third year, both from Bengal, constitute the first two plates belonging to the Eagles. An adult male of *Aquila nævia*, Gm. apud Jerdon (B. Ind. no. 28), from Daulan, Tenasserim, is figured; and the species is stated to be not uncommon in suitable localities in that province. The next plate is entitled *Aquila fulvescens*? and a good plate of the Hmorungee (*Nisaëtus fasciatus*) feeding on a Black Partridge is followed by one containing two figures of the *Limnaëtus niveus* (T.), apud Jerd. (B. Ind. no. 34), in plumage which Colonel Tickell characterizes as that of the third or fourth moult. The one is Ibis, 1876, p. 340. represented pure white underneath, with (including the terminal) five caudal bands; the other with the under-surface plumage marked with brown drops, the thigh-coverts with the usual transverse bars, and the rectrices with only four bands.

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* Khodawund. Ghurreeb rurwur. Moolook Malik. Ap ma bâp hȳe. Āp Khoda hȳe. Baroot bhoolgya!

Falco lathami (Tickell [*], J. A. S. B. 1833, p. 569) is incidentally alluded to in the article on *Limnaëtus cristatellus* (T.). This is the passage:—"I shot a Hawk-Eagle in 1833-34 in the jungles of Seheria, Borabhoom (Bengal), which Jerdon considers may possibly be referred to this species; but of this I am very doubtful, as it was noted by me at the time as only 18 inches in length. It had a fine long occipital crest, black, with white tips. Head, nape, and wing-coverts clouded with ashy and rusty. Back clouded with brown. Lower parts white, with a streak of black down the centre of the throat, and with rusty bars on the breast and belly. A drawing made of it at the time was lost by the sinking of my boat in the Ganges; and I have never met with the bird again, although I often subsequently traversed and explored those vast forests."

Jerdon has suggested that *F. lathami*, Tickell, might have been founded on a young example of *L. kieneri*, or perhaps on *Astur trivirgatus* [†]. The description may have been taken from a young male of *L. albiniger*, a species, in adult plumage, by the way, which Colonel Tickell describes as a variety of *L. cristatellus*. Mr. Sharpe (Cat. Accipitres, p. 352) identifies *F. lathami*, and without a doubt, with *Baza lophotes*. There is something to be said in favour of this opinion, but not enough to establish it. In favour, there is the fact that Colonel Tickell again refers to *F. lathami* in his article on *Baza lophotes*, a species, however, of which he was ignorant in the adult plumage. As the young he describes, with a note of interrogation, the bird he had obtained in 1833 in Borabhoom, adding to the description the words "Tickell's *Falco lathami*, 1833." And he goes on to observe, "The above description is taken entirely from Jerdon; for the adult I have never seen, and the (by me supposed) young I lost my notes and drawing of; but a slight description was sent by me, in a 'List of Birds collected in the Jungle Mahals,' to the Journal of the Asiatic Society of Bengal in 1833, of a bird shot by me in Seheria, Manbhoom (West Bengal), which, to the best of my recollection, closely resembles *Baza lophotes* in an immature plumage, and most certainly was not a *Limnaëtus*, nor an *Astur* as suggested by Jerdon." But Colonel Tickell had no previous or subsequent certain knowledge of *Baza lophotes* in any phase of plumage; and he therefore could not possibly judge whether the bird he referred to *F. lathami* was the young of *B. lophotes* or not. In opposition to Mr. Sharpe's identification, we have these two inconvenient facts: first, Tickell's bird measured 18 inches in length, and in expanse 40 inches; and, secondly, the legs are described as being "clothed with short white feathers to the feet, which are of a horny colour." The first character tells, and the last would tell conclusively, against Colonel Tickell's bird having belonged to *B. lophotes*, were it not for the inconsistent sentence which follows—"exposed part of the tarsi reticulated." No description

Ibis, 1876, p. 341.

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[*] It is not to be concluded with any certainty, from the way Colonel Tickell introduces this name (*l. c*), that he was bestowing an original title of his own on an undescribed species. The internal evidence is the other way. The species is the first of the list, and is entered thus:—"1. FALCO LATHAMI. *Colvy Falcon*? LATHAM;" and then follows the description. The *Colvy* (*Cohy*) *Falcon* of Latham is unquestionably *B. lophotes*; and on Latham's plate (G. H. i. t. 10) Mr. J. E. Gray had some four years previously founded his *F. lathami* (Griff. ed. of Cuv. An. King. *Aves*, i. p. 30). It is only at the third species in the list that Colonel Tickell begins to bestow titles of his own; and to the name of this species, *Falco herbœcola*, the following footnote is attached:—"The names of such birds as have never come under my notice before, and are necessarily of my own coining, I have distinguished by the addition of a T." All through the paper the letter T is added to a new title; but it is wanting after the title *F. lathami*.

[†] *L. kieneri* ad. was obtained at Oorkhia, in Singbhoom, by Colonel Tickell; with *Astur trivirgatus* he was well acquainted.

of *B. lophotes* in first plumage appears to have been published; nor have I ever met with examples.

A mature female of *L. kieneri*, from Darjeeling, is well figured; and the title *albogularis*, Ibis, 1876, p. 342. Tickell (J. A. S. B. 1842, p. 456), is admitted to be synonymous. *Polioaëtus icthyaëtus*, adult female and young bird, is well given, from Tenasserim examples, and is stated to be the commonest Eagle in Burma and Tenasserim; and two beautiful plates represent *Haliaëtus fulviventer*, from Malda, and *H. leucogaster*, from Akyab. Among the drawings of the Hawks, *A. trivirgatus* ♀ juv. ex Singbhoom, *M. badius* ♀ ad. ex Tenasserim (*poliopsis*, Hume), *A. nisus* ♀ ad. from Darjeeling, and *A. virgatus*, young of second year, from Hazaribagh, find a place. *Falco nisosimilis*, Tickell (J. A. S. B. 1833, p. 571), is not alluded to, beyond being quoted as a synonym of *A. nisus*, according to Jerdon.

Eight different species of Falcons form the subjects of as many plates, the most interesting being, perhaps, *F. peregrinator*, of which a mature female and a young example are figured on the same plate. Colonel Tickell states that it is a commoner species in Burma than in India, and that he had "frequently observed it on the sea-side at Amherst, where two or three pairs of these birds breed every cold season, building on the high Gurjan oil-trees along the shore." The plate of the common Indian Kite, *M. govinda*, may be cited as one of the most charming and characteristic in the volume. *Butastur teesa*, from a Tenasserim female, is figured on the same plate with a Bengal male; and the species is said to be more common in Burma than in Bengal.

Falco herbœcola, Tickell[*] (J. A. S. B. 1833, p. 570), is identified with *Circus swainsoni* ♀, a position assigned to it with doubt by Blyth (Cat. Calc. Mus. no. 90), and with certainty by Jerdon (B. Ind. no. 51).

The second volume contains twenty-one plates, on which nineteen species of Owls are depicted. A figure of a nestling example of *Syrnium indranee*, obtained in Tenasserim, leads off. The ochraceous colour of the disk is plainly indicated. Following a fair plate of *Syrnium seloputo*, from Tenasserim, is an admirable drawing of *S. nivicolum*, from Darjeeling, and then good figures of *Bubo bengalensis* and *coromandus*, from Bengal. The next represents the type of Ibis, 1876, p. 343. Tickell's genus *Ptiloskelos* and species *P. amherstii* (J. A. S. B. 1859, p. 448), which Mr. Blyth, at the time, correctly identified with *Huhua orientalis* juv. (*t. c.* p. 411, note). *Ketupa ceylonensis*, with the title of *Strix dumeticola*, Tickell (J. A. S. B. 1833), admitted as a synonym, and *K. javanensis*, are both figured, the latter from a Tenasserim adult male. A plate is devoted to *Scops pennatus* under the title of *Ephialtes scops*, and another to the young bird; and *Scops sunia*, from Tirhoot, is described and figured as a distinct species. *Athene radiata*[†], Tickell, is stated to be "met with throughout the forest portion and lower hills of Arakan, Burma, and Tenasserim;" and of *Glaucidium brodei* Colonel Tickell remarks that while Darjeeling and Tenasserim birds do not differ in plumage, "nevertheless it is remarkable that the notes of the bird in these two countries differ considerably."

Volume iii. treats on the ZYGODACTYLI, and contains forty-six plates. Of these, five belong to the Parrots, twenty-one to the Woodpeckers, including *Sasia*, *Vivia*, and *Yunx*, five to the Barbets, and fifteen to the Cuckoos.

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[*] I cannot find any notice of this title in the British-Museum Catalogue, *Accipitres* (1874).

[†] Tickell's specific denomination of *radiata* (J. A. S. B. 1833, p. 572) for this Owl was, by misprint, converted into that of *undulata* by Blyth (J. A. S. B. 1842, p. 457).

Palæornis javanicus (*melanorhynchus*); figured from a cage-bird, is represented with a red *, instead of yellow, wing-patch, the part being described of an Indian-yellow colour. The male and female are stated to have the upper mandible red, the under black, but the young to have the bill black, "which colour the female retains *till* full maturity."

Picus atratus, Blyth, ♂ ♀ (Plate IX. *in orig.*), is figured; and the male is for the first time described. But both description and figure of the male are taken from an immature example, the scarlet on the head only reaching the vertex, whereas in the adult this colour covers the crown and occiput as well. The fulvous-grey colouring of the frontal plumes of the female is somewhat exaggerated in hue and extent. *P. atratus* is not unlike *P. macæi*, but is distinguished by having the uropygium uniform black, and not marked with white, and by the bold dark brown or black mesial stripes on the pectoral feathers. Ibis, 1876, p. 344.

Picus majoroides is represented with a large white patch on the middle of the back, which is not quite true to nature, the nape, back, uropygium, and upper tail-coverts in this species being uniform black.

In *Picus mahrattensis* (*auro-cristatus*, Tickell, J. A. S. B. 1833, p. 579, ♀) neither the crimson occiput of the male nor the yellow occiput of the female is represented in the plate. The fact that *Hemicercus canente* ♀ has the forehead creamy buff, and not the male, is confirmed by the figure given of "an undoubted female" by Colonel Tickell.

The little-known *Meiglyptes jugularis* is described and figured from a Tenasserim example of a so-called male; but the red cheek-stripe is omitted.

Having figured and described individuals of the Tenasserim race of *Tiga shorii* (*T. intermedia*, Blyth), Colonel Tickell gives a plate and description of a distinct species of the same genus, obtained in the forests on the Teesta river, Sikim. Under the title of *Chrysonotus biddulphi* it is thus described:—"Iris labelled 'hazel.' Bill and legs blackish neutral. Crown, crest, and entire nape, as well as lower back, silky scarlet. Forehead, ramus, and throat, and all foreneck pale brown. Rest of face and neck white. A black line from hinder rim of eye down across the auriculars to the scarlet of nape, which it borders for a short space. Another line from rictus down latero-frontal neck. Another along lower edge of ramus, joining the rictal stripe at end of ramus. And another branching from the last midway on ramus and joining the rictal stripe lower down neck. All breast and lower parts as in *shorii*, but with browner edges to the feathers; upper parts the same, but a broad black band runs across top of back and separates the scarlet and white of nape and neck from the gold-yellow of upper parts. Wing $6\frac{1}{16}$. Tail $4\frac{3}{4}$ (beyond wing $1\frac{3}{4}$). Bill $1\frac{1}{2}$. Tarsus 1. Inn. toe $\frac{15}{16}$." This form does not appear to have been since recognized.

Cyanops franklini, from Mooleyit range, Tenasserim, is described and figured with the superciliary stripe unspotted black, the typical form.

Two birds are figured on the next plate, one being named *Megalaima indica* (Lath.), and called by Colonel Tickell the Village Barbet, the other *M. philippensis*, Temm., and which he Ibis, 1876, p. 345.

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* It is so described by Jerdon (B. Ind. i. no. 152).

terms the Jungle Barbet. Both figures represent *X. hæmacephala*; and as Colonel Tickell admits that the Village and the Jungle Barbets "are precisely similar in shape and colour," the object of giving a duplicate figure of the same bird is not obvious. They are, however, stated to differ in habits and voice; and the dimensions of the Jungle Barbet, as given, are a trifle greater. This bird, Colonel Tickell states, is only found in deep lofty forests in Tenasserim; and he syllabicizes the notes of the two birds.

Phænicophaës curvirostris (*erythrognathus*) is described and figured from individuals met with on the Mooleyit range. In plumage the sexes are stated to be alike; but while the iris of the male is noted as cobalt-blue, that of the female is stated to be orange. Colonel Tickell remarks that the species feeds on insects, and not on fruits.

An example of a species of *Centropus* obtained at Hazaribagh, Bengal, is figured and described with the scapular interspace of the back coloured like the wings. It probably falls under *C. intermedius*, Hume. A Darjeeling adult example, and a young bird from Chota Nagpore, of *Cuculus micropterus* are represented under the title of *C. striatus*. The plate of *Cuculus sparverioides* contains a figure of a female whose plumage is in the hepatic stage, the tail excepted, which is that of the fully adult bird.

Together with the adult, *Polyphasia rufiventris*, in hepatic barred plumage, is depicted, both from Burmese examples. The latter is described as a separate species under the title of *C. castaneus*. Colonel Tickell treats *P. rufiventris* and *P. passerinus* as being merely varieties of one species, which he identifies with *C. merulinus*, Scop. The first he terms the Indo-Chinese variety, the other the Indian variety.

The plumage, which in the Emerald Cuckoo (*C. maculatus*) of India and Burma assumes the brilliant green colouring of the adult, is known to be more or less rufous in the young bird, the rufous colouring passing into coppery green before becoming emerald-green. Similar transitions take place in the colouring of the plumage of *C. xanthorhynchus*. The barred and rufous stage is succeeded by one in which the rufous colour is replaced by coppery green, which then passes into a darker and purer green, then turns into violet or blue amethystine before finally assuming the amethystine hue of the fully adult plumage. An example of *C. xanthorhynchus*, obtained at Rangoon, passing over from the rufous and coppery green stage to the violet and amethystine adult dress, is well figured by Colonel Tickell. He, however, considers that *C. maculatus* is in what he terms the "first adult" dress, and that *C. xanthorhynchus* represents the "second adult, or old bird" of the same species—a conclusion which is contrary to the known facts. *C. xanthorhynchus*, a smaller bird than *C. maculatus*, is a Malayan species which ranges as far north as Hill Tipperah, and occurs in the Andamans. *C. maculatus* is an Indian species, and found not uncommonly in Pegu and Siam (*C. schomburgki*). In fully adult plumage it has the chin and throat, but not the breast, unbarred emerald-green, like the upper plumage.

Ibis, 1876, p. 346

To the TENUIROSTRES, as understood by Colonel Tickell, are devoted volume iv., with thirty-two plates. By him this tribe is made to include the *Sittidæ*, *Nectariniidæ*, and genera such as *Zosterops*, *Iora*, *Phyllornis*, *Yuhina*, *Myzornis*, *Herpornis* and *Oriolus*, *Irena* and *Upupa*.

One of the most finished drawings in the work is that of *Certhia discolor*, taken from a Darjeeling example. That of *Sitta formosa* is not so happy, while the characters whereby *Sitta* *cinnamomeiventris* is distinguished from *S. castaneiventris* are successfully portrayed on the plate representing the two species; and, together with that of *S. himalayensis*, the tails are separately sketched in Indian-ink. The lovely *Dendrophila frontalis* (Horsf.) is worthily depicted from two Tenasserim examples. Mr. Sharpe has (Str. Feath. 1875, p. 436) recently stated that the Javan bird differed specifically from the continental *S. corallina*, Hodgs. The characters relied on are "the under surface being more richly coloured, and the throat being lilac-brown, like the breast," while "the Himalayan bird is larger, and is always to be distinguished by its white throat." The Javan bird seems to be generally somewhat smaller; but in all other respects I am unable to affirm that the characters stated are constant: an adult Javan example in my collection has the throat as white as continental individuals; and the under surface is not more richly coloured. Ibis, 1876, p. 347.

A well-executed figure of *Arachnothera magna*, from a Darjeeling example, introduces the *Nectariniidæ*. Colonel Tickell mentions having, on two occasions, obtained this species in Tenasserim. Captain Beavan obtained it at Moulmein (P. Z. S. 1866, p. 540*). Mr. Blyth enumerates it (B. Burma, No. 485) as a Tenasserim and Arracan species; and specimens collected by Mr. Davison at Kyouknyat and near Yé, are identified with it by Mr. Hume (Str. F. ii. p. 473). We may therefore assume that the Himalayan bird, and not the nearly allied *A. aurata* of Pegu, inhabits Tenasserim.

The identification of *Nectarinia seheriæ*, Tickell (J. A. S. B. 1833, p. 577), has, since its description, remained a matter of uncertainty; and in great hopes of finding materials sufficiently conclusive to settle the disputed point, I turned to Colonel Tickell's later observations in this work. *Æthopyga miles* (Hodgson) is the title he adopts for the first species of the genus described; and, as a synonym, among others, he adds *N. seheriæ*, Tickell. The plate, on which the two sexes are figured, is also entitled *Æ. miles*, followed by the locality where the subject of the plate was procured, as is generally done throughout the work. This locality is stated thus—"Seheria, Borabhoom, Bengal, 1833." Here, on the face of it, we have a figure of the type; but on turning to the letterpress this contradictory passage occurs, "The individual here figured was procured in the Tongu-ngoo † district, Burma." In his original account of the discovery of *N. seheriæ* (*l. c.*), and in the letterpress in this work, where that account is given in much the same words, no mention is made of a female having been obtained; and yet a female is figured as being from Seheria. Nor in the letterpress is it mentioned where the female figured on the plate, and described in the diagnosis of *Æ. miles*, came from. Fortunately, an examination of the figure of the male, together with Colonel Tickell's later description, leaves no doubt that the bird he had before him was the Tenasserim and Tonghoo form of *Æthopyga miles*, recently named by Mr. Hume ("if really new") *Æthopyga cara* (Str. F. ii. p. 473, note). It is the *Æ. miles* (Hodgs.), *apud* Walden (P. Z. S. 1866, p. 541 ‡), ex Moulmein and the Salween river, obtained by Captain Beavan, and also the *Æ. miles*, *apud* Blyth (B. Burma, no. 491). In 'The Ibis' (1870, p. 32) I drew attention to some of the characters which seem to distinguish the Moulmein form of *Æ. miles*; but, rather than risk adding a useless synonym, I refrained from naming it. Lately Captain Shelley kindly informed me that he was of opinion that my Burmese example belonged to a species distinct from *Æ. miles*; and a careful comparison I have since Ibis, 1876, p. 348.

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* [*Anteà*, p. 18.—Ed.]

† [This is evidently a misrendering of "Toung-gnoo," the old, and I believe more accurate, method of spelling the name of the place now known as Tonghoo.—Ed.]

‡ [*Anteà*, p. 19.—Ed.]

made convinces me that Captain Shelley is justified in thinking that the Burmese form should be specifically separated. It is a species intermediate between *Æ. miles* and *Æ. eupogon*, as will be seen by the following key:—

Æ. miles. Cap, rectrices, and upper tail-coverts dark metallic green; violet moustachial stripe simple; base of lower throat-feathers black.

Æ. cara. Cap and upper tail-coverts green; rectrices dark steel-blue, tinted with violet; base of lower throat-feathers white; violet moustachial stripe simple.

Æ. eupogon. Cap, upper tail-coverts, and rectrices metallic violet; base of lower throat-feathers white; violet moustachial stripe internally margined with black.

N. seheriæ must still therefore be looked for in Borabhoom; but as Colonel Tickell identifies it with *Æ. miles*, and as his original description of the Borabhoom bird agrees to the letter with *Æ. miles*, I have little doubt that *N. seheriæ*=*Æ. miles*, in which case Colonel Tickell's title will have precedence.

The remaining Himalayan species of *Æthopygæ* are all beautifully figured. But *Anthothreptus malaccensis*, ♂ ♀, "locality not known," is figured under the erroneous title of *N. zeylonica*, and *A. flammaxillaris* ♂, ex Rangoon, under the incorrect name of *N. jugularis*. *Nectarophila*
Ibis, 1876, p. 349. *hasseltii*, ♂ ♀, ex Akyab, and *Chalcoparia phœnicotis*, ♂ ex Akyab, ♀ ex Tongu-ngoo [Tonghoo], adorn the last two plates, representing the true Sun-birds.

The next two plates contain figures of (according to Colonel Tickell) five distinct species of the Dicæinæ. Figure 1, on the first plate, is entitled *Dicæum minimum*, Tickell, and stated to have been drawn from a male example obtained at Yé. As described, the bird may be *D. minimum*; but as figured, it is certainly *D. cruentatum*, ♀ vel ♂ juv. The upper tail-coverts are coloured red in the plate; and so is the base of the bill. The figure does not represent Tickell's type obtained in the Saul jungles of Borabhoom and Dhalbhoom, but a totally distinct bird.

The second figure is of *D. cruentatum* ♂ adult; and the third (which completes the plate) is entitled "*Dicæum chrysorrhæum*, Temm., ♂, Yé, Tenasserim." As described, this is *D. trigonostigma* ♀ vel ♂ juv., and agrees well with Moulmein and Malaccan examples. As depicted, the species is difficult to identify, the yellowish green back and striated throat, breast, and flanks recalling *D. chrysorrhæum*. No description of *D. trigonostigma* ♀ appears to have been published; and I therefore give one, and also a figure of it (Plate IX. fig. 2, *in orig.*). Chin, throat, upper breast, and cheeks pale ashy grey, palest on the chin and throat, which sometimes are tinged with yellow. Remainder of breast, abdomen, flanks, and under tail-coverts more or less yellow, inclining on the mesial line to pale orange. Plumage of upper surface ashy, in some tinged with olive-green throughout, in others almost pure ashy on the head, nape, and wing-coverts. Uropygium tinged with yellow, and upper tail-coverts almost orange-ochre. Quills dark brown, edged with ashy olive-green. Rectrices dark brown. Axillaries and under wing-coverts silky white. Inner edges of the quills, for a part of their length, white; outer edges grey or silvery white. *D. trigonostigma* ♀ vel ♂ juv. is exceedingly like *D. virescens*, Hume, ♂ ♀, ex Andamans (Str. F. 1873, p. 482); and it may be that the specimens obtained at Pahpoon and neighbourhood by
Ibis, 1876, p. 350. Mr. Davison, and identified by Mr. Hume with *D. virescens* (Str. F. 1874, p. 473), belong to *D. trigonostigma* ♀.

The second plate of the Dicæinæ contains two figures:—No. 1, entitled *Piprisoma agile*, ex

Borabhoom; No. 2, *Prionochilus gordoni*, Tickell, ex Mergui. This last is *Dicæum trigonostigma** ♂.

It is difficult to assume that Colonel Tickell would figure a different species under a title he was the first to give to a bird he first discovered; and yet it is impossible to recognize his figure of *Piprisoma agile* as belonging to that species. His delineations are generally not only so beautiful, but so accurate, that we cannot permit ourselves to doubt that his figure of *P. agile* is a good representation of the bird it was drawn from†. The bill is that of a true *Dicæum*; and the colouring and markings more nearly resemble those of *D. chrysorrhœum* than any other species. It is certainly not *Piprisoma agile*. Can it be the *Prionochilus modestus*, Hume (Str. F. 1875, p. 298), possibly founded on female or immature males of some known species of the genus? In the letterpress Colonel Tickell correctly describes *P. agile*; but the bird figured has the upper plumage yellowish olive-green, without a trace of ashy, the upper tail-coverts more yellow than olive, and the whole under surface albescent, with longitudinal streaks of olive-brown.

Zosterops siamensis, Blyth (Ibis, 1867, p. 34), is well figured and described by Colonel Tickell, from the Mooleyit range, under the title of, and confounded with, *Z. palpebrosa*, T. As I cannot find that Blyth ever described this species in preciser terms than those given in the short passage where he bestowed that title (*l. c.*), I append a short description and give a figure of the bird (Plate IX. fig. 1, *in orig.*). Above yellow olive-green, the yellow tint being prominent and most developed on the uropygium and upper tail-coverts, forehead, and space before the eye; underneath, axillaries, and under wing-coverts bright yellow; quills and rectrices pale brown, edged more or less with the colour of the back. Lores black, which colour extends to below the eye. Wing 1·95. *Z. austeni* is an allied form of greater dimensions, above olive-green, without a yellow tint, and with only the chin, throat, and under tail-coverts clear yellow. Ibis, 1876, p. 351.

Colonel Tickell's observations on *Iora zeylanica* and *I. typhia*, which species are both figured on the succeeding plate, do not throw any light on the mystery which envelops their mutations of plumage. He seems to have simply recognized them as constituting two distinct species. *I. zeylanica* ♂, from Moulmein, is represented with the head and nape changing to black, and the scapulars unmargined black. *I. typhia* ♂, from Hazaribagh, is in typical plumage. *Iora lafresnayi* ♀, from a specimen shot by Colonel Tickell at Aseen, near Yé, is fairly depicted; and he states that it is a rarer bird than the two other species.

To the Leaf-birds (*Phyllornis*) four plates are assigned. On the first *P. jerdoni* ♂, ex Moulmein, and ♀, ex Pyntee, Bengal, are stated to be figured. The occurrence of *P. jerdoni* in Tenasserim is extremely doubtful, although the figure agrees best with that species. As described, both birds belong to *P. chlorocephalus*. The example of *P. javensis*, which Colonel Tickell discovered on the Mooleyit range in 1855 (J. A. S. B. xxiv. p. 277), is figured; its Tenasserim habitat has been since confirmed by Mr. Davison, who found it at Yé.

The plates and accounts given of the species belonging to the genera *Yuhina*, *Oriolus*, *Irena*, and *Upupa*, with which the volume closes, offer no matter for remark beyond this, that the figure of *Psarolophus trailli*, ex Darjeeling, applies better to *P. ardens*.

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* Colonel Tickell was not acquainted with the genus *Prionochilus*.

† It has been already shown that the subjects of the plates do not always belong to the subjects of the letterpress, *e. g. D. minimum*.

The next two volumes, v. and vi., contain the DENTIROSTRES, vol. v. being restricted to the Laniidæ and the Muscicapidæ, with thirty-eight plates.

The Burmese *Volvocivora avensis*, Blyth, is figured from Tenasserim examples under the title of *V. fimbriata* (T.).

Ibis, 1876, p. 352.

The particoloured middle pair of rectrices found in certain examples of *Pericrocotus speciosus*, more especially among those from Assam and Burma, have been regarded by some as constituting a good specific character, sufficient to differentiate individuals possessing them specifically from the type. For such examples the title of *P. elegans* (McClell.), founded on an Assam bird, has been adopted by Mr. Hume and others. Burmese and Assam birds, however, occur with the middle pair typically coloured (that is, entirely black), while in Darjeeling birds both varieties are to be met with. Colonel Tickell figures and describes an example from Singbhoom, Bengal, with the outer webs of the middle pair of rectrices red, as in so-called *P. elegans*. *P. speciosus* being a widely spread and dominant species, exhibits that tendency to vary usual among species occupying wide areas.

The female of *Pericrocotus roseus* is correctly, and for the first time, figured, but inaccurately described as only differing from *P. solaris* ♀ by having the head no darker than the back. In *P. solaris* ♀ the ashy upper surface is dark leaden, as in the male, the under plumage being bright pure yellow, and not pallid yellow as in *P. roseus* ♀; nor is the throat greyish white. The back in *P. solaris* ♀ is strongly coloured with olive-green; in *P. roseus* ♀ the green shade is much less marked. The bird depicted by Mr. Gould as *P. solaris* ♀ (B. As. pt. i.) is clearly *P. brevirostris* ♀.

P. roseus ♂ is figured and described by Colonel Tickell from a Tenasserim example. The uropygium and upper tail-coverts are described as being "pure brilliant scarlet." This is certainly the case with all Burmese and Assam birds I have seen. But is it so in typical Bengal and other Indian individuals? These last I have never met with varying from the description given by Jerdon (B. Ind. i. p. 422)—"rump tinged with rosy."

Lanius hypoleucus, Blyth (*collurioides*, Less.), from Tenasserim, is figured; and so also, among the Dicruridæ, is *Dicrurus balicassius*, apud Tickell (*annectens*, Hodgs.), and *Chibia hottentota* (*Criniger splendens*, Tickell). Examples of *Hemipus picatus* ♂ ♀, from Yé, Tenasserim, are figured; and this species seems to be the only one found in Burma, unless the Mergui bird, included by Blyth (Cat. B. Burma, No. 407), was correctly identified as being *H. obscurus*.

Ibis, 1876, p. 353.

Among the Flycatchers Darjeeling examples of *Butalis ferrugineus*, adult and young, *Muscicapulæ superciliaris*, *strophiata*, and *sapphira*, adult and young, and a Tenasserim example of *Erythrosterna maculata* are well figured; while the plate of *Eumyias melanops*, taken from Akyab individuals, appears to be referable to *Cyornis unicolor*. The young, in mottled plumage, and the adult male and female of *Cyornis rubeculoides* are represented on one plate, and figured from Tenasserim examples. All three species of *Niltava* are well delineated; and *N. macgregoriæ* ♂, in the young plumage, is introduced.

Volume vi. contains Part 2 of the DENTIROSTRES, and is confined to the *Merulidæ*, which family is made to comprise the Wrens, Pittas, Thrushes, and some of the Timeliine genera. It contains thirty plates, with figures of thirty-six species. *Pnoëpyga squamata* and *P. caudata* are prettily figured on one plate; the first species with the throat and breast rufous. In the letterpress no fresh light is thrown on the question of the perplexing changes of colour found in this species. *Rimator malacoptilus* is depicted running with long strides along the ground, and *Zoothera marginata* extracting worms from a river-bank, as observed by Colonel Tickell in Tenasserim. *Turdus ruficollis* (two plates), *T. atrigularis*, *T. rufulus*, *T. mollissimus*, *T. dauma*, and *T. albicinctus* are well figured.

The first plate of the *Timeliinæ* represents, under the title of *Turdinus macrodactylus*, the type of *Turdinus crispifrons*, Blyth (J. A. S. B. xxiv. p. 269). It was shot near Moulmein. Colonel Tickell considers it to be identical with the Malaccan form. The young bird is figured with the sides of the head white. *Trichastoma abboti*, from near Moulmein, is figured and described as distinct, with the title of *Turdinus insidiosus*, and, on the same plate, a Tenasserim example of *Stachyris nigriceps*.

The next plate represents two little-known species—*Turdinus guttatus*, Tickell (J. A. S. B. 1859, p. 450), and *Turdinus brevicaudatus*, Blyth—both discovered by Colonel Tickell on the Mooleyit range in Tenasserim. Examples of *T. guttatus* I have never seen; but, judging by the plate, it must be nearly allied to, perhaps a representative form of, the Malaccan *Timelia leucotis*, Strickl. The principal differences between the two species appear to be:—first, the throat being white in *T. guttatus*, while it is black in *T. leucotis*; and, secondly, the breast being ash-coloured in the Malaccan bird, and rufous (orange-rusty), like the abdomen, in *T. guttatus*. Colonel Tickell's species was described and figured from a female; but he describes the male and female as being alike in plumage; yet, although he shot what he presumed to be the male, he did not succeed in finding it. The form of the bill in the genus *Turdinus* is so dissimilar to that of *Timelia leucotis* that it is difficult to assume that Blyth would refer a species like *Timelia leucotis* to his genus *Turdinus*. Still, in Colonel Tickell's plate, the bill resembles that of a *Timelia* rather than that of a *Turdinus*; nor is the plumage that of a *Turdinus*. *Turdinus brevicauda* (so written by Colonel Tickell) is too highly coloured; and the spots on the tips of the tertiaries and greater wing-coverts are described and figured as being white, whereas in all the examples I have seen these spots are rusty fulvous, and in the excellent figure of the species given by Mr. Gould (B. As. pt. 24) they are so coloured. It may be that the Tenasserim type species differs from that inhabiting the Khasias. As some excuse for describing the Khasia bird as new under the title of *T. striatus*, I may be permitted to state that I did so at Dr. Jerdon's request, and that when he gave me the specimen which I described (Ann. N. H. (4) vii. p. 241*) from, he assured me that it was new. Ibis, 1876, p. 354.

Lieutenant Wardlaw Ramsay discovered *Sibia picaoides* at an elevation of 5000 feet in Karennee (Blyth, B. Burma, no. 319); and its occurrence in Burma has not been previously made known; but Colonel Tickell, who figures the species from a Darjeeling example, mentions that he killed it at an elevation of 3000 feet in Tenasserim, and that "it inhabits the whole Eastern Cis-himalaya and along the Malayan spur." His plate represents the colouring of much too pale a tint.

In February 1859, on the plateau of Mooleyit, in Tenasserim, at an elevation of 6600 feet, Colonel Tickell discovered a species of *Sibia*, which has not, so far as I know, been again obtained. One example, that of a male, was secured; and on being sent to Blyth at Calcutta, that gentleman (J. A. S. B. xxviii. p. 413) described it with the title of *Sibia melanoleuca*, Tickell. In the Ibis, 1876, p. 355.

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* [*Anteà*, p. 98.—Ed.]

following number of the journal (*t. c.* no. 5, p. 451) Colonel Tickell described the bird again, calling it *Sibia picata*; and under this title it is described and figured; and the plate is one of the most valuable in his work.

The Nightjars, Trogons, Broadbills, Swallows, Swifts, Bee-eaters, Rollers, Kingfishers, and Hornbills, under the general title FISSIROSTRES, form the subjects of volume vii., and are represented on fifty-three plates. The first illustrates a species of *Batrachostomus*, obtained near Tongu-ngoo [Tonghoo], Burma, and identified by Colonel Tickell with *B. moniliger* (Layard). The figure very accurately represents *B. affinis*, Blyth, in bright chestnut plumage, a species which can hardly be separated from *B. moniliger*.

Caprimulgus asiaticus is beautifully and most artistically figured under the title of *C. mahrattensis*, with which totally distinct Nightjar Colonel Tickell confounds the commoner species.

From examples of male and female obtained in Borabhoom, near the northern limits of its range, *Harpactes fasciatus* is well delineated, and on the succeeding plate the Javan Trogon, *H. orescius*, from specimens obtained in Tenasserim.

Tenasserim is the radiating point of the *Eurylæmidæ*. All the generic types, one or other of which extends to the Himalayas, to the Indo-Chinese countries, the Malayan peninsula, and the three great islands of Sumatra, Java, and Borneo, are to be found in that province and Arracan *. Six of these species are figured from examples obtained in Tenasserim by Colonel Tickell, who gives interesting accounts of their habits.

Ibis, 1876, p. 356.

None of Colonel Tickell's drawings surpass in beauty those of the Swallows; and while the delineations of all six species are particularly graceful, that of *Hirundo domicola* (*javanica*, Sparrm.) may be especially mentioned.

As a record of the fact that *Chelidon urbica* occurs in Tenasserim, an example there obtained is figured. *Cotyle concolor* and *C. rupestris* are taken out of Boie's genus and formed into a separate genus, for which the title of *Krimnochelidon* is proposed—a generic division already anticipated by Reichenbach, who entitled it *Ptyonoprogne*.

The genus *Dendrochelidon* (*Macropteryx*) is retained among the true Swallows (and not, as by most writers, among the Swifts).

Seven species of Swifts are well represented by as many drawings. Among these are *Acanthylis caudacuta* from Darjeeling, and *A. sylvatica*, from the type specimen, killed by Colonel Tickell at Chilpil, Singbhoom, Nov. 30, 1835. A very good plate shows *Collocalia nidifica* (*francica*, Gm.) breeding on rocks near Akyab, Arracan, and a male bird in the act of flying. Colonel Tickell remarks, "I carefully compared a specimen I had shot at Darjeeling, August 8, 1848, with a pair brought to me in Akyab, Jan. 9, 1852, and found them precisely similar in plumage, and in dimensions also, within a minute fraction." The dimensions are then stated; and the differences are trifling. Interesting facts concerning this species are related in the letterpress. A good account and plate is given of *Cypselus vittatus* (*pacificus*) as observed in Tenasserim.

The Bee-eaters and Rollers, which are nearly all figured, are followed by the Kingfishers—

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* *E. ochromelas* may be an exception; but it is included by Mr. Blyth (B. Burma, no. 432). The Bornean form of *Cymbirhynchus macrorhynchus* can hardly be considered a separate species. The Sumatran *Psarisomus psittacinus* may be sufficiently differentiated from *P. dalhousiæ* to constitute a distinct species.

the first plate representing the Burmese *Pelargopsis burmanicus*, Sharpe, under the name of *Halcyon leucocephalus*, Linn., from a Tenasserim example, and the next the Indian form, with the correct title, *H. gurial*, Pearson.

Six species of *Bucerotidæ* are depicted, and first *B. bicornis* ♂, about to feed the female on the nest, immured in the hole of a tree. A detailed account of the breeding of this bird *, and outlines showing the progressive growth of the casque during the first and second years are given. Ibis, 1876, p. 357. The type of *Aceros tickelli* ♀, first discovered by Colonel Tickell, is figured, with an account of the species, most of which has been published in 'The Ibis' (*t. c.*). A good drawing of *Aceros pusaran* (*plicatus*), together with original notes on its habits &c., closes one of the best sections and the last volume of Colonel Tickell's beautiful work.

Description of a new Species of the Genus Trichostoma *from the Island of Celebes.* By ARTHUR, Viscount WALDEN. [From 'The Ibis,' July 1876, Plate XI. *in orig.*]

Ibis, 1876, p. 376.

IN Jardine's 'Contributions to Ornithology' (1849, pp. 127, 128, t.) the late Mr. Strickland gave a short account, accompanied by a figure, of a Celebean bird on which he bestowed the title of *Trichostoma celebense*. On the preceding page he had already shortly described a Ibis, 1876, p. 377. Bornean bird, which, with some doubt, he identified as being the true *Napothera umbratilis*, Temm. (a manuscript title). Both species were among some birds purchased by Mr. Wilson from M. Verreaux, and which the latter gentleman, according to Mr. Strickland, had confounded together, as both bore on their labels Temminck's MS. title already cited. Ever since it has been a matter of great difficulty in Europe to determine the species Mr. Strickland had before him, and which he named *T. celebense*—for the reason that the types of both the Bornean and Celebean species went to America, that the description of *T. umbratile* apud Strickland is very brief, while that of *T. celebense* consists of nothing more than a few words setting forth in what respect it differs from the Bornean bird (a species not even now determined), and that the figures of both birds are neither drawn nor coloured satisfactorily.

But so long as only one species of the genus *Trichostoma* was known to inhabit Celebes, and that species agreed sufficiently well with Strickland's brief description, that species was, naturally enough, referred to *T. celebense*; and a single example, obtained at Macassar by Mr. Wallace, was thus identified by me (Tr. Z. S. viii. p. 62 †).

Since then I have received from North Celebes several examples of a species of *Trichostoma* widely differing from what I supposed to be *T. celebense*; and it becomes therefore necessary to decide which of the two species best agrees with Strickland's account and figure of *T. celebense*. Dr. Otto Finsch has also sent me for determination an example of this genus, marked as being a male, obtained by Captain Conrad in the district of Macassar. This bird differs but slightly from the one obtained by Mr. Wallace, now in the British Museum. After comparing the two species with Strickland's description and figure, I have little doubt that the Menado, and not

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* This account is published in Colonel Tickell's paper "on the Hornbills of India and Burma" (Ibis, 1864, p. 178).

† [*Anteà*, p. 163.—ED.]

the Macassar bird, supplied the type of *T. celebense*, Strickl.: consequently the Macassar form
Ibis, 1876, p. 378. requires to be distinguished by a separate title; and for it I propose that of *Trichostoma finschi* (Plate XI. fig. 1, *in orig.*). It may be thus described:—

♂ (Macassar). Chin and throat white, faintly tinged with very pale fulvous. Breast, abdomen, flanks, under wing-coverts, and thigh-coverts fulvous, tinged with rufous, pale near the mesial line. Under tail-coverts rusty fulvous, redder than the abdominal plumage. Head umber-brown, with a slight olive tinge. Space before the eye greyish white. Cheeks fulvous white. Back and uropygium rufous brown, the uropygial feathers being voluminous and fluffy, and terminally coloured pale rusty fulvous. Upper tail-coverts pure rust-colour. Quills and rectrices ruddy brown, the outer webs being distinctly rusty brown. The inner webs of the third and following quills with a pale rusty fulvous edging for part of their length, this edging being indicated at the base of the second quill. Wing-coverts ruddy brown. Legs, feet, claws, and lower mandible (in dried skins) pale yellowish white. Upper mandible horny brown, commissure and tip pale yellowish white. Iris (labelled) yellow. Wing 2·87 inches, tail 2·25, tarsus 1·0. Rictus armed with very long bristles. First primary short, second about half an inch longer, third three eighths longer than second; fourth, fifth, and sixth longer than third, the fourth and sixth being nearly equal, and the fifth the longest.

T. celebense, Strickl. (Menado) (Plate XI. fig. 2, *in orig.*). Whole head above, nape, back, uropygium, and major wing-coverts rich reddish brown, purer brown on the head. The long loose uropygial feathers tipped with ferruginous. Rectrices and outer webs of the quills dark ferruginous chestnut (in another example the outer webs of the quills concolorous with dorsal plumage); inner webs brown. Lores ashy white. Cheeks and ear-coverts brown. Chin, throat, and ventral region white or ashy white. Breast pale cinereous. Flanks brown. Thigh-coverts and under tail-coverts light rust-colour. Upper tail-coverts bright ferruginous. Legs, feet, and claws pale yellowish. Base of maxilla blackish brown; remainder, with mandible, pale horn-colour. Rictal bristles black, not very stiff, and extending beyond the basal half of the bill.
Ibis, 1876, p. 379. Wing 2·75 inches, tail 2·37, tarsus ·93, bill ·75. Gradation of quills as in *T. finschi*.

The examples described by Dr. F. Brüggeman (Abhandl. nat. Ver. Bremen, v. p. 63. no. 57) appear to be *T. celebense*, Strickl., according to my views.

Ibis, 1876, p. 384.

Letter on Sterna albigena, *from* Viscount WALDEN, P.Z.S., *to the* EDITOR *of* 'THE IBIS' (July 1876).

SIR,—A couple of examples of the rare Tern, *Sterna albigena*, Rüpp., shot on the Bombay coast near Hurnee (?) on the 25th March, 1875, have recently come under my notice, and have been identified by our best authority on the Sterninæ, Mr. Howard Saunders. This Tern has, I believe, been only known to inhabit the Red Sea; and as it forms an addition to the fauna of India, its occurrence on the western shores of that country may not be unworthy of record in your pages.

Yours etc., WALDEN.

Chislehurst, June 15, 1876.

1877.

Letter on Anthus gustavi, *from the* Marquis of TWEEDDALE *to the* EDITORS *of* 'THE IBIS' (April 1877).

Ibis, 1877, p. 258.

SIRS,—In some interesting remarks on *Anthus gustavi*, Swinhoe (*anteà* [*op. cit.*], p. 128), Mr. Seebohm observes that this Pipit should be looked for in winter in the Philippine Islands, in the Malay archipelago. At page 117* of the Zoological Society's 'Transactions,' vol. viii., the occurrence of this species in Celebes is noticed, and its identity with *Pipastes batchianensis*, G. R. Gray, is recorded.

Yours truly,
TWEEDDALE.

Chislehurst, March 1, 1877.

Descriptions of three New Species of Birds from the Indian Region. By ARTHUR, Marquis of TWEEDDALE. [From the 'Proceedings of the Zoological Society of London,' read April 17, 1877†.]

P.Z.S. 1877 p. 366.

Two of the species about to be described were obtained by Mr. Ossian Limborg on or near the Múlé-it‡ range of mountains in Tenasserim, a locality which had only been once previously visited by a naturalist, namely, the late Colonel Tickell. The third species formed part of a collection of birds made by Mr. Edmund Charles Buxton in the Lampong district of Sumatra.

TRICHOSTOMA LEUCOPROCTUM, n. sp.

♀. Above olivaceous ruddy brown, more rusty at the tips of the upper tail-coverts, greyish on head, a tinge of pale rufous on a narrow frontal band, passing to the pale lores. Two centre tail-feathers umber-brown. The three outer tail-feathers edged pure white on the inner web, the extent of white edging increasing inwards, until the whole inner web of the antepenultimate feather is white, while the fourth is broadly edged white for nearly its whole length on the opposite or outer web. Shoulder of wing rusty olive, the primaries dull rusty brown. Blotch of white on the upper breast, which is dull pale olive-brown, fading into the pure white of the under tail-coverts. Wing rounded; first primary $\frac{1}{2}$ the length of the second, which is $\frac{1}{4}$ inch less than the third, fifth the longest. Tarsus and feet moderately strong for the group.

Length about 6·5 inches, wing 3·5, tail 3·0, tarsus 0·9, bill at front 0·63.

Legs and feet grey; irides dark brown.

Hab. Base of the Múlé-it range, Tenasserim. Obtained by Mr. Ossian Limborg.

CHRYSOCOCCYX LIMBORGI, n. sp.

Above fine rich purple with steel reflections; wings and tail the same, somewhat darker; throat and breast same as the back. Two outer tail-feathers with a similar white tip, and four spots on the outer web of the last, with a short white streak on the inner web opposite each spot, the two together having a tadpole-like outline. Lower breast and vent white, the feathers broadly barred with green and purple, and overlapping, form a succession of regular bands; the bars on the under tail-coverts are broader and of a stronger purple tint. Under-surface of wing white at the inner base of the primaries and secondaries, forming a narrow white bar inside the wing; a pure broad white crescentic collar on the lower nape, commencing low down on the side of the neck. Bill yellow. Legs rich green. Irides red, and a bright crimson orbital skin.

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* [*Anteà*, p. 214.—ED.]

† [Published August 1.—ED.]

‡ [Spelt Mooleyit in former papers.—ED.]

Length about 6 inches, wing 4·0, tail 3·1, tarsus 0·6.

Hab. Base of Múlé-it range, Tenasserim.

P.Z.S. 1877, p. 367. This species (which, while closely allied to, differs from *C. xanthorhynchus*, Horsf., by having a broad white nuchal collar) was discovered by Mr. Ossian Limborg under the Múlé-it range, east of Moulmein, in January of the present year.

BRACHYPTERYX BUXTONI, n. sp.

Above, wings and tail rich ruddy brown; whole under surface silky white, with a faint greyish tinge on sides of breast; thigh-coverts and under tail-coverts white, sullied with ochreous. Space before the eye and sides of head dingy ochreous. Upper tail-coverts rusty brown. Wings 2·87 inches, tail 2·30, bill from forehead 0·75, tarsus 1·0, hallux with claw 0·4, middle toe without claw 0·62.

Hab. District of Lampong, S.E. Sumatra; obtained by Mr. Buxton.

Seen from above, this species has the aspect of *B. albifrons*, Boie, ♀, but is of a less ruddy brown.

P.Z.S. 1877, p. 420. *Notes on the Species of the Genus* Batrachostomus *inhabiting the Indian Region.* By ARTHUR, Marquis of TWEEDDALE, F.R.S. [From the 'Proceedings of the Zoological Society of London,' read May 15*, 1877, Plates XLV.–XLIX. *in orig.*]

THE rarity in our collections of examples representing the different members of the genus *Batrachostomus* in all their various states of plumage, the want of field-collectors' notes to elucidate the few that do exist, the variability and intricacy of the markings by which they are characterized, and consequent difficulty, more especially in the males (?), of conveying by mere description, and even by coloured drawings, an adequate conception of their distinctive external characters, have combined to retard our knowledge of the genus.

P.Z.S. 1877, p. 421. The group was unknown to the older zoologists; and Dr. Horsfield was the first naturalist who described (1820), and afterwards figured, one of its members, an inhabitant of Java—*B. javensis.* Temminck soon afterwards (1823) described and figured another species from Bencoolen, in Sumatra, obtained by Messrs. Diard and Duvaucel, probably under the auspices of Sir Stamford Raffles; and a few years later (1830) Vigors made known the giant form of Sumatra, *B. auritus*, sent to England among the collections of Sir Stamford. In 1837 Mr. Gould added a fourth species, *B. stellatus*, describing it as inhabiting Java. Dr. Jerdon, in his Second Supplement to his 'Catalogue of the Birds of Southern India' (1845), announced the discovery

* [Published October 1.—ED.]

by Captain Roberts of a representative of the genus in Peninsular India, which, however, he never saw, and which up to this date remains unidentified. Not many years elapsed before Blyth (1847) published an account of a sixth species, obtained at Malacca by Mr. Frith, *B. affinis*; and two years later he received from Darjeeling the fragments of two nestlings, which he identified as belonging to this species (*l. c.*). In Ceylon, Layard discovered and so added another species to the list (which may or may not be the same as the South-Indian form)—a species described by Blyth (1849) under Layard's title of *B. moniliger*. The whole of these six or seven species were in rufous or rufous-brown plumage; but in 1850 Bonaparte (*l. i. c.*) made known the fact that each sex in one species at least (*B. javensis*) wore a plumage peculiar to itself—a statement reiterated in wider terms and confirmed by Prof. Schlegel (*l. i. c.*) four years later. This important fact did not deter Mr. G. R. Gray from describing in 1857 a bird in grey and brown mottled plumage, obtained the year before by Mr. Hodgson's collectors at an elevation of 3000 or 4000 feet behind Darjeeling, as belonging not only to a new species but to a distinct genus—*Otothrix hodgsoni*.

From the year 1849 until the date of the visit of the 'Challenger' Expedition to the Philippines, the efforts of naturalists, while considerably increasing and correcting our knowledge of the geographical distribution of the *Batrachostomi*, had not made known any new species. Mr. Blyth had already announced the occurrence of *B. auritus* in Malacca; and Mr. Low has discovered it in Borneo. Mr. Motley obtained *B. cornutus* at Banjermassing, in Borneo; and the Marchese Doria found it at Sarawak. Tickell has figured and described *B. affinis* from Burma; and Lieut. Wardlaw Ramsay discovered the same species in the plumage of *Otothrix hodgsoni* on the Karen-nee hills in that country. The range of *B. stellatus* has been made to include Malacca by Mr. Blyth's researches, and extended to Borneo (Sarawak) by Marchese G. Doria. Mr. Bourdillon has quite recently discovered in Travancore examples of a species of the genus which, while confirming Dr. Jerdon's statement that one of its members occurred in Southern India, may prove to be a distinct form. And, lastly, the Philippine island Mindanao has been added to the area of the genus (as restricted), by the discovery there made by the naturalists of the 'Challenger' Expedition of a large species. Examples of the genus, so far as at present recorded, therefore present themselves in Ceylon, Southern India (Wynaad, Travancore), the vicinity of Darjeeling, Tung-goo* and Karen-nee in Burma, Malacca, Sumatra, Borneo, Java, and Mindanao.

P.Z.S. 1877, p. 422.

It was an *à priori* and a natural inference of many ornithologists that the bright-plumaged birds of the genus *Batrachostomus* must be males, and the grey dull-coloured birds either females or immature examples, or else that they belonged to totally distinct species; for the *Batrachostomi* exhibit two very distinct phases of plumage—the bright rufous or rufous bay (when adult), and the speckled, spotted, and striated grey and brown and rufous-brown dress. So very different an aspect do individuals falling under either one or other of these two phases assume, that it was long before some authors suspected that they in fact belonged to the same species, though to the opposite sexes. This conclusion cannot even now be considered as placed beyond doubt (for the Frogmouths may be dimorphic); and it is therefore proposed to state and examine the evidence on which it rests. Bonaparte (Consp. i. p. 57, no. 2) seems to have been the first writer who announced that in the case of *B. javensis* the sexes differed; for he remarks (*l. c.*):—"Mas *et* fem. *inter se colore differunt uti* Scops asio *differt a* Sc. nævia *auctorum*." But his simile leads to the inference that he thought the rufous birds were males and the grey females. A few years later Prof. Schlegel (J. f. Orn. 1856, p. 460) propounded the general and more definite axiom that in all the Indian species of the genus *Podargus* (*Batrachostomus*) the males are grey, the females rust-coloured. At that time the Leyden Museum possessed examples of two Asiatic species identified by the Professor as *B. parvulus* (*ex* Borneo and Malacca) and *B. cornutus* (*ex* Java, Sumatra, and Borneo); and to these species must Professor Schlegel's dictum be restricted, doubtless founded on numerous examples with the sexes determined by the Dutch collectors. Of *B. parvulus* (=*B. affinis*, Blyth), *ex* Malacca and Borneo or Sumatra, I have not met with an example, in either grey or rufous plumage, of which the sexes had been determined by a competent collector. Yet, if *B. affinis*, Blyth, is but a slightly smaller form of *B. castaneus*, Hume (of which there is little doubt), and consequently the rufous phase of *Otothrix hodgsoni*, then there is some confirmatory evidence of Prof. Schlegel's opinion that the grey birds belong to the male sex. Examples of *B. cornutus*, *ex* Sumatra and Borneo, in both plumages, with the sexes determined, fortunately exist in England, and bear out the Professor's conclusions. In the British Museum is preserved an example, *ex* Sumatra, in grey plumage, and marked as being of a male by its collector, Mr. Wallace. Count Salvadori (*l. c.*) describes a freckled rufous individual from Sarawak; and the sex, as ascertained by the collector, is stated to be female. Two pairs of this species, collected in Banjermassing by Motley, were examined by Mr. Sclater; and he observed (P. Z. S. 1863, p. 212) that "the sexes are very different in colouring, the male being minutely freckled with brown and black, and the female bright rufous. Horsfield's figure represents the female." As regards the remaining Asiatic species there is also some evidence on this point. A bright rufous example of *B. moniliger*, Layard, collected in Ceylon by Mr. S. Chapman (*mus. nostr.*), is marked "sex, female." A grey-brown speckled bird of the same species, obtained at Ratnapura, in Ceylon, is marked ♂ by the collector, Mr. H. Nevil (*mus. nostr.*). Of two individuals belonging to the genus recently obtained in Travancore by Mr. Bourdillon, and referred by Mr. Hume (*l. c.*) to *B. moniliger*, Layard, one, in rufous plumage, said by Mr. Hume to agree with the description of the Ceylon type, is marked female by the collector; the other, in grey-and-brown freckled and mottled plumage, is marked a male. A single specimen of a new species from Mindanao, discovered by the naturalists of the 'Challenger' Expedition, is in rufous-brown striated plumage; and the sex is stated on the label to be female. Lieut. Wardlaw Ramsay ascertained the sex of a *Batrachostomus* obtained by him on the Karennee hills (5000 ft. elevation) to be male; and this individual is in grey-and-brown mottled plumage, hardly distinguishable from the type of *Otothrix hodgsoni* and from grey-and-brown mottled examples of *B. affinis*, *ex* Malacca. Of *B. stellatus* (=*B. stictopterus*, Cab.) I have never seen examples in grey plumage. It is a common bird in Malaccan collections; and I have examined a great number of individuals. It has two phases of plumage—bright rufous or rufous bay, and dark brown and rufous brown. Younger birds possess either of these hues, but have the upper plumage striated. Count Salvadori's Latin description, taken from three Sarawak individuals (one of which is labelled as being a male), applies to the rufous-brown phase of dress; for he says, "*Supra rufo-brunneus.*" We might infer, therefore, that the bright rufous dress belongs

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* [*Lege rectius* the Tonghoo district in Burma, Karen-nee, Malacca, &c.—Ed.]

P.Z.S. 1877, p. 123.

here again to the female; but controverting this conclusion is a Bornean example in bright rufous plumage, collected by Mr. Everett (*mus. nostr.*), on the label of which the sex is marked male. Of ten examples of the large *B. auritus*, *ex* Malacca (*mus. nostr.*), five are in a rufous-coloured dress, and the other five are strongly tinged with grey above and below. I cannot discover that the sexes corresponding to these two phases of plumage have ever been determined by collectors; but Mr. Gould (*l. c.*) conjectured, some thirty-four years ago, that the rufous bird was the male, and the greyer bird was either the female or the young—a conjecture requiring confirmatory proof. With the exception of the male symbol on Mr. Everett's Bornean rufous example of *B. stellatus*, the little reliable evidence on record favours Professor Schlegel's generalization. It must not be omitted to notice that Mr. Hume (Str. F. ii. p. 349) has distinctly stated that "Mr. Hodgson's bird" (the type of *Otothrix hodgsoni*) "was certainly an adult female, by dissection;" but we are left without any evidence (besides Mr. Hume's statement) that this assertion is well founded; there is nothing on the label of the type specimen relating to the sex. Judging from the following more recent observation of Mr. Hume (*op. cit.* iv. p. 378)—"It is true that when I formerly wrote, I thought it (relying on what Hodgson recorded) probable that *hodgsoni* was the female, and *castaneus* the male,"—it would appear that Mr. Hodgson had *recorded* that he had *ascertained* by *dissection* that the bird on which Gray founded his *Otothrix hodgsoni* was a female. If this be so, the conclusion that the females of this species are always rufous, and the males grey, is very much shaken; and it is most desirable that Mr. Hodgson's own words should be made known; for the accuracy of zoological facts stated by Mr. Hodgson may be said to be more than "probable." Of the specimens of *B. crinitus*, *ex* Gilolo and Batchian, with sex determined, the females are in rufous plumage or rufous brown (*B. psilopterus*). The females of other Papuan forms of *Podargus* appear also to be rufous, such as *P. ocellatus*. It may be added that the white markings on the nuchal, gular, and pectoral plumes and on the scapulars and wing-coverts (where they occur) are very similar in adult birds of either sex, *B. moniliger* in part excepted.

P.Z.S. 1877
p. 424.

There is no evidence that the young, even nestlings, of both sexes wear plumage of the same colour. On the contrary, from the little that has been published on the subject, the young of the species known have grey or rufous predominating from the first.

Of the two nestlings from Darjeeling identified by Blyth as belonging to *B. affinis*, one is described as being "mainly of a light chestnut hue, with nearly obsolete barred markings, and throwing out deeper chestnut or light-bay feathers on the crown and shoulder of the wing; while the other is profusely mottled throughout with black on a pale ground, but faintly tinged with chestnut" (J. A. S. B. 1849, p. 806). The nestling obtained along with the adult of *Otothrix hodgsoni* (Mus. Brit.) is in pale rufous barred plumage. A nestling of the Travancore bird discovered by Mr. Bourdillon is described by Mr. Hume as a "little rufous-brown ball" (Str. F. iv. p. 380).

If it comes to be established that the adult females wear the rufous dress, and the adult males the more sombre grey and brown plumage, we shall have the fact that the females of the species belonging to the genus *Batrachostomus* are far more brightly coloured, and therefore more conspicuous than the males. The white ornamental plumes, the erect, frontal, half-developed, crest-like feathers, the true occipital crests, and the long hair-like auriculars are equally prominent in adults of both sexes, species by species, the white scapulars in the *B.-auritus* group excepted.

But the fact will remain that the bright colouring belongs to the females. It is a coincidence, though perhaps nothing more, that all seven were first made known from rufous examples.

The genus *Batrachostomus* was formed by Mr. Gould (Icones Av. ii. p. 13) for the reception of *P. auritus*, Vigors. Captain Hay three years later (J. A. S. B. 1841, p. 573) also proposed to make the same species the type of a genus which he called *Bombycistomus*. It is difficult to detect any external characters sufficiently definite to warrant the removal of *B. auritus*, or any of the other Asiatic *Batrachostomi*, from the older genus *Podargus*. Mr. G. R. Gray (P. Z. S. 1859, p. 101) created a separate genus under the title of *Otothrix*, mainly relying on the long hairy auriculars, for the reception of the species obtained near Darjeeling by Mr. Hodgson. All the P.Z.S.1877, p. 425. external generic characters given by Mr. G. R. Gray for *Otothrix* belong to every other Asiatic species of *Batrachostomus* in a greater or lesser degree; and it seems unnecessary to retain the title. That of *Batrachostomus* I only hesitate to surrender because I have not had an opportunity of sufficiently studying all the species of *Podargus* as restricted. *B. crinitus*, if any species, perhaps deserves generic separation, on account of its long naked tarsus and weak bill.

The following diagnostic table may perhaps assist the identification of the species known to inhabit the Indian region.

Females, adult uniform rufous, young rufous much striated with brown. Males with mottled, freckled, spotted, striated, grey, brown, tawny, and rufous-brown plumage, or uniform brown upper plumage. A white or else tawny-white nuchal collar in adults of both sexes.

A. ♀. Wing-coverts unspotted with white. Gular collar, pectoral and scapulary plumes white.
♂. Wing-coverts with white or tawny white terminal spots or bands.
1. ♀. Major; white extending to centre of throat; gape 1·38 . . . } *B. cornutus.*
♂. Ditto; ditto; ditto . . . . }
Sumatra, Borneo.
2. ♀. Minor; white extending to centre of throat; gape 1·12 . . . } *B. javensis.*
♂. Undescribed . . . . }
Java.
3. ♀. White throat, plumes confined to the gular collar; gape 1·12 . } *B. affinis.*
♂. White extending to centre of throat; gape 1·12 . . . . . }
Malacca, Burma, Darjeeling.

B. ♀. Wing-coverts with conspicuous terminal white spots. No white gular pectoral or abdominal plumes.
♂. Ditto; ditto.
4. ♀. Rufous; gape 1·31 . . . . } *B. stellatus*
♂. Brown or dark rufous-brown above; gape 1·31 . . . . . . }
Malacca, Borneo, Sumatra.

C. ♀. Wing-coverts with conspicuous terminal white spots. White gular, pectoral, and abdominal plumes. Scapulars rufous.
♂. Wing-coverts, gular, pectoral, and abdominal plumes as in female.

P.Z.S. 1877. p. 426.

5. ♀. Major; scapulars with large terminal black spots, tipped white; white gular and pectoral plumes rudimentary; feathers of the head mostly tipped fulvous; gape 2·25 . . . . *B. auritus.*
♂. Above and below tinged grey; scapulars tawny grey, finely striated with brown; gape 2·25 . . . .
Sumatra, Malacca, Borneo.

6. ♀. Minor; scapulars without black and white terminal spots; gape 1·37 *B.* sp. nov.
♂. Unknown . . . .
Mindanao.

7. ♀. Scapulars with a minute terminal black dot, tipped white; gape 1·25 . . . . *B. moniliger.*
♂. Scapulars white and rufous white, minutely striated with brown; gape 1·25 . . . .
Ceylon.

Females, at least in some species, seem to betray immaturity by having their rufous plumage traversed by dark irregular striæ, and by the white markings of the adult being ill-defined and not pure in colour; males by having the white nuchal and gular collar-plumes indistinct, undeveloped, and sullied by tawny. Some importance has been attached to the fact that in occasional examples of the genus the maxilla is found to overlap the mandibula. But this appearance seems to be owing to the imperfect preparation of the skin.

BATRACHOSTOMUS AFFINIS. (Plate XLV. *in orig.*)

Podargus stellatus, Gould, Blyth, J. A. S. B. 1845, p. 209.

Batrachostomus affinis, Blyth, J. A. S. B. 1847, p. 1180, "Malacca;" Blyth, *op. cit.* 1849, p. 806, juv.; *t. c.* p. 807, adult.

Podargus affinis, Blyth, Cat. Calc. Mus. p. 81. n. 405 (1849).

Batrachostomus parvulus (Temm.), Bp. Consp. Av. i. p. 57 (1850), ♀.

Podargus parvulus, Schlegel, J. für O. 1856, p. 460, "Borneo, Malacca;" Handleiding d. Dierk. i. p. 224, "Borneo, Malacca" (1857).

Otothrix hodgsoni, G. R. Gray, P. Z. S. 1859, p. 101, t. clii. (♀?).

Otothrix hodgsoni, G. R. Gray, Jerdon, B. India, i. p. 190 (1862).

Podargus javanensis, Horsf., Tickell, Indian Ornithology, vii. p. 8, *nec* Horsf.

Batrachostomus moniliger, Blyth, Tickell, *op. cit.* t. 1, "near Toung-ngoo, Burma," *nec* Blyth.

Batrachostomus castaneus, Hume, Str. F. ii. p. 349 (1874), "neighbourhood of Darjeeling" (♀?); *op. cit.* 1876, p. 376.

P.Z.S. 1877, p 427.

Batrachostomus hodgsoni (G. R. Gray), Walden, J. A. S. B. 1875, pt. ii. ex. no. p. 83. no. 162, "Karen-nee, at 6000 feet," ♂.

Batrachostomus affinis, Blyth, Walden, *t. c.* p. 84.

Batrachostomus affinis, Blyth, Walden, Ibis, 1876, p. 355.

B. castaneus, Hume, Blanford, Ibis, 1877, p. 251.

Hab. Malacca, Burma, Darjeeling, Borneo (?), Sumatra (?).

B. parvulus is stated by Professor Schlegel (Handleid. *l. c.*) to inhabit Borneo and Malacca; but at page 479, index to the plates, no. 15, it is given as from Sumatra also. The bird represented, however, seems to belong to *B. stellatus*. An example of a young *Batrachostomus* (rufous plumage) is contained in the British Museum, and labelled "Sumatra," which may belong to *B. affinis*, as it corresponds well with the young example *ex* Malacca (*mus. nostr.*) below described. But the young bird in rufous plumage is exceedingly difficult to distinguish from the young bird of *B. cornutus* when the latter has not arrived at dimensions equal to or greater than *B. affinis*, adult; and its resemblance to *B. javensis* will be probably found to be still closer.

Of the specific identity of *B. affinis* with *Otothrix hodgsoni* there is some concurrence of testimony. Fragments of two specimens from Darjeeling were enumerated by Blyth (Cat. Calc. Mus. no. 405, B, C) under *B. affinis*, but stated to be "of a nearly allied but distinct species." This opinion Blyth subsequently modified the same year; for in his "Supplemental note to the Catalogue" (J. A. S. B. 1849, p. 806. no. 405) he remarked, "In a collection made at Darjeeling we found the heads, wings, and tails of two specimens of what we now consider to be the young of this species" (*B. affinis*). Lieutenant Wardlaw Ramsay's example of *Otothrix hodgsoni* was obtained in the vicinity of the district from which Colonel Tickell received an example of *B. affinis* in rufous plumage. Malaccan examples of *B. affinis* in the dress of *Otothrix hodgsoni* occur as frequently as the rufous bird; and Mr. Hume (*l. c.*) has described a specimen of his *B. castaneus*, ex Darjeeling, in a plumage that agrees with that of *O. hodgsoni*. Mr. Hume almost admits that *B. castaneus* represents a phase or a sex of *O. hodgsoni*. Both Jerdon and Blyth in later years strongly suspected that *O. hodgsoni* represented a phase of *B. affinis*. In the dimensions of the wings and tail the birds at the northern limit of the range (Sikim) exceed those at the southern (Malacca), while the width of gape remains constant.

No. 1, ♀ (?) adult, ex Malacca (*mus. nostr.*) (Pl. XLV. *in. orig.*). Head, elongated occipital crest-plumes, back, uropygium, upper tail-coverts, scapulars, minor and major wing-coverts, exposed upper surface of secondaries, and tertiaries, throat, sides of neck, breast, abdomen, ventral region, and flanks pure bright rufous; chin, forehead, and supercilium tawny rufous. The elongated auriculars tawny rufous and tipped blackish brown. The abdomen and exposed surface of secondaries and tertiaries of a somewhat paler shade than the back. Throat-plumes with a white
P.Z.S.1877. p. 428. open transverse V-mark towards the tips, which are bright rufous; above the white mark a narrow dark brown line which separates the white of the V-mark from the white bases of the lateral webs, these forming a narrow white margin to the shaft, which is white; below the white V-mark another dark brown separating line, remainder of the webs grey or greyish brown: with each feather the extent and outline of the white markings slightly varies; but taken together a white irregular demicollar is formed, which is partly concealed by the rufous tips of its constituent feathers. Springing from below this collar and from the sides of the upper breast are many elongated bright rufous plumes, bearing a pure white ocellum about the middle of each. These ocelli are separated from the rufous colour of each feather by a narrow but distinct dark brown encircling line. Below these breast-feathers is another series traversing the lower breast and upper abdomen ornamented in a similar manner; but the spots are larger, and elongated rather than round, and on each side of the shaft above the drop the webs at their base are white; the white spots on the lower abdominal feathers are fewer in number, smaller in size, and more

irregular in form. As on the throat, all these white markings are much concealed by the overlapping of the rufous tips and margins. Some of the scapulars have a long bold white centre, separated from the rufous by a narrow dark brown line. On the shorter scapulars the white mark is small; and on the longer scapulars the white only occupies the outer half of the feather. Several of the nuchal feathers are traversed by a pure white band, which is bounded above and below by a narrow dark brown line, the tips of the feathers being rufous. The unexposed inner webs of all the quills are uniform brown above, paler underneath. The outer webs of the primaries are pale rufous, with a few narrow transverse brown marks. Excepting the first and second primaries the pale rufous colour of the outer webs continues round the tips of the quills onto the inner webs, slightly increasing in extent with each quill. Underneath, the outer webs are also pale rufous, the brown marks hardly showing through. The shafts above are rufous brown, below pale rufous or yellowish rufous. The ground-colour of the rectrices is a dull rufous, of a somewhat darker hue than that of the tertiaries. They are traversed at almost equal intervals by a series of some seven or eight obscure ill-defined darker rufous or brownish-rufous bands, margined above and below by a narrow irregular zigzag darker brown line. On the outer rectrices these dark lines are broader, and the interspaces are darker brown. The basal half of the inner webs of the rectrices (middle pair excepted) is cut into with white or tawny white. The short outermost pair have a white or tawny spot on both webs and another higher up. The second outer pair have two tawny white marks on the outer web. Under surface of rectrices pallid rufous, the dark bands showing through. Under tail-coverts yellowish white, some tipped and otherwise marked with rufous. Thigh-coverts tawny. Axillaries grey tipped with rufous. Under wing-coverts mixed grey, rufous, and tawny white. The stiff elongated narial and frontal bristles are tawny rufous tipped black. The bill is massive and typical. 1st quill a little more than two-thirds the length of the 2nd, which is $\frac{3}{8}$ of an inch shorter than the 3rd; the 4th exceeds the 3rd by about $\frac{1}{8}$ and is slightly shorter than the 5th, which is longest. The tarsus is naked behind, but feathered anteriorly for about a quarter of its length. The three middle pairs of rectrices are about equal in length; the fourth pair is somewhat shorter; the fifth pair is about half the length; and the outer pair is almost rudimentary. Wing 4·62, tail 4·75, tarsus 0·43, middle toe 0·50, bill from forehead 0·88, width of gape 1·12.

P.Z.S. 1877, p. 429.

No. 2, ♀ (?) not quite adult (?). Colonel Tickell (*l. c.*) described and figured a species of *Batrachostomus* from near Toung-ngoo, in Burma, which belongs to *B. affinis*. It is in rufous plumage, the feathers of the head, upper back, and scapulars being vermiculated transversely with black. No mention is made of a white nuchal band; nor is such a character indicated in the plate. Still this character might be easily overlooked in some skins; and Tickell described from a dried specimen. The description is of sufficient importance to be published, and is as follows:—"Iris sepia*. Bill fleshy horn. Legs horn. Head, upper back, and scapulars bright umber, shaded ferruginous on back and mingled with greyish on scapulars, the whole vermiculated crossways, black. Outer webs of two or three longest scapulars white, bordered with black. Tertials clouded brown, ferruginous and grey, with black vermiculations. Wing-coverts rusty vinous, broadly vermiculated black. Secondaries and primaries, outer webs chestnut-rusty, with broken narrow bars of black. Inner webs sepia. Tips of primaries pale and mottled,

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* The colour of the iris must have been stated to, and not observed by, Colonel Tickell.

Tail cinnamon-brown, shaded grey marginally and vermiculated black, and crossed with five paler bars (not joining the shafts), subterminal series (*sic*). The bars are edged black and obscurely vermiculated. All underparts from bill vinous rusty, with a group of white black-margined patches on throat, and another across bottom of breast, below which the colour is paler and broken with rusty and dusky irregular bars; this extends to lower tail-coverts. Lower back and upper tail-coverts as back. A pale tawny supercilium. Lining of wings whitish. Length 9 inches, wing $4\frac{3}{4}$, tail $4\frac{5}{8}$, of which beyond body $2\frac{1}{2}$, bill $\frac{5}{8}$, tarsus $\frac{9}{16}$, middle toe $\frac{5}{8}$."

This description refers to the rufous phase, when the upper plumage is traversed and vermiculated by narrow brown lines, while otherwise the bird exhibits the adult markings.

No. 3, ♀ (?) young, ex Malacca (*mus. nostr.*). Chin and upper throat tawny white; rest of throat tawny rufous, feathers tipped brighter rufous and with distinct indications of white ocelli. Upper breast the same. Lower breast-feathers tawny white, with rufous margins (somewhat as in *B. stellatus*, ♀ adult). No traces of the pure white drops on the lower pectoral plumes. Abdomen, ventral region, and under tail-coverts sordid white, with traces of pallid rufous. Frontal band and supercilium tawny rufous. Crown and occipital crest-plumes as in adult. P.Z.S.1877, p. 430. White nuchal collar distinctly indicated, the white of the band not being pure. Back and uropygium dark rufous, traversed by narrow black irregular lines. Upper tail-coverts pale rufous, striated with black or brown. A few scapulars showing indications of the white markings of the adult. The rufous part of all the quills with distinct, transverse, irregular black lines. Rectrices as in adult; but the paler rufous intervals are round, and do not touch the shafts. Sides of the neck creamy white. No lengthened auriculars. Wing 4·50, tail 4·12, bill from forehead 0·81, width of gape 0·88.

The example here described seems to be of a nestling female passing over to the intermediate finely striated phase. It is full of blood-feathers. An example, *ex* Sumatra (*Mus. Brit.*) is in similar plumage.

No. 4, ♂ (?) adult, Malacca (*mus. nostr.*). General aspect grey, greyish white, greyish rufous, rufous brown, with a white nuchal collar, white-marked scapulars, white throat and pectoral plumes. Frontal plumes tawny at their insertion, tipped and marked with brown, a bold buff supercilium, edged above with a series of buff feathers with brown tips and freckles. Crown-feathers greyish, with dark brown tips and small tawny-white marks on the margins of the webs of some. Lengthened auriculars tawny white the greater part of their length, freckled with brown, and tipped dark brown. Occipital crest like the crown-feathers, but tinged with rufous at their extremities, forming with the upper nape-feathers an obscure rufous-tinged collar. A conspicuous nuchal collar formed by a series of feathers which, pale rufous tawny grey at their insertion, are, lower down, traversed by a narrow brown zigzag line, then by a narrow band of pure tawny rufous, which is separated by a second irregular brown transverse line from a broad pure white band, which, in its turn, is bounded by a black terminal border to the feather, in some freckled with tawny. Interscapulars grey, with a rufous tinge, minutely freckled with brown, some with black, terminal small spots. Back the same, but less rufous, and with fewer black terminal dots. Upper tail-coverts rufous, with tawny dots and brown freckles. Some scapulars pure white, with a black terminal spot and a narrow margin (in parts) of black; near insertion a few zigzag pale brown markings. Several other scapulars with inner webs grey, freckled with brown, outer webs being pure white, narrowly bordered with dark brown, and having terminal black spots. Other scapulars pure white, traversed sparsely with fine irregular greyish-brown lines. Minor and major wing-coverts brown, with rusty margins and having a mottled rusty and brown aspect. Many of the major coverts with pure white terminal spots. White and tawny minute terminal spots on many of the other wing-coverts. Tertiaries brown, minutely freckled with pale grey wavy fine lines, tinged with tawny rufous in places. Some with white or greyish-white terminal spots. Primaries with the inner webs pale brown; outer brown, marked with rusty and indented with white or tawny white. Tips of primaries (1st and 2nd excepted) mottled with tawny rust-colour. Axillaries grey, tipped pure white. Under wing-coverts creamy white, mingled here and there with brown. Chin and throat-feathers white at their roots, with tawny tips, the produced hair-like shafts being brown, and narrow brown lines crossing some of the feathers. On the centre of the throat and reaching to the breast a patch of white feathers, each with a subterminal, irregular, brown, narrow transverse line, and in some, higher up the feather, a second V-shaped line. The white throat-plumes bordering the upper breast with a broader dark-brown or black terminal band. Separating the group of white throat-plumes from the upper breast is a series of brown feathers freckled with rusty, and all with more or less white along the basal half of the shaft. These are followed by a series of pectoral pure white plumes, with either black terminal margins or black margins freckled with pale rusty. Many are traversed with two irregular brown narrow lines. These pectoral plumes are succeeded by pure white abdominal feathers, traversed by two narrow V-shaped pale-brown or tawny-brown lines, the terminal margins being white or fulvous. The flank-feathers have much the same character. The ventral feathers and under tail-coverts are white, some of the latter traversed with dilute brown markings. Rectrices pale grey, tinged tawny and profusely freckled with transverse, minute, irregular lines. Six or seven pale irregularly circumscribed quasi-bands cross the rectrices, but without quite touching the shafts. These bands are minutely dotted with pale brown, and margined above and below with a distinct brown line. Penultimate outer pair broadly indented on both webs with pure white. Shafts above pale ruddy brown, below tawny white. Rectrices below appear pale greyish brown, banded with pallid tawny. Rectrices tipped brown. The long narial bristles are black. The bill is as in the rufous bird. Upper fourth of anterior side of the tarsus is feathered. Wing 4·62, tail 5, tarsus 0·5, middle toe 0·62, bill from forehead 1, width of gape 1·12.

P.Z.S. 1877, p. 431.

No. 5, ♂ (?) adult, ex Malacca (*mus. nostr.*). This example closely resembles the one above described, but has the plumage of the head of a darker brown. The whole back with a more decided dark rufous tinge. The pale caudal bands more regular in outline and running right across the feathers, and the darker and broader interspaces more rufous brown. Wing 4·75, tail 5, bill from forehead 0·9, width of gape 1·18.

No. 6, ♂ (?) not quite adult (?), ex Malacca (*mus. nostr.*). In general tone of colour this example closely resembles No. 4. The auricular plumes are fully developed, and the bill is that of an adult; but the white nuchal collar is only indicated by a few feathers, and might be overlooked. The scapulars exhibit white all over or only on the outer webs; the white on the throat-plumes is more irregularly distributed, while the pure white small spots on the major wing-coverts are more abundant. The rectrices resemble those of No. 2. Wing 4·5, tail 4·62, bill from forehead 0·9, width of gape 1·16.

An example (*mus. nostr.*) marked East Africa (?) only differs from the foregoing by all the quills being indented on their outer webs with pure rufous without any white.

P.Z.S.1877, p. 432. No. 7, ♂ (*fide* Wardlaw Ramsay) ex Karennee, at 6000 feet elevation (specimen referred to under the title of *Otothrix hodgsoni*, in Blyth's B. Burma, *l. c.*). This example has the general aspect of the three last described. The back has the rufous tinge of No. 5; but the white-banded nuchal feathers are not more apparent than in No. 6. The scapulars are coloured and marked as in the others; but on one or two of the tectrices, near the end, on either web, is a pure white spot. The white and the tawny rufous pectoral feathers are, here and there, tipped with a darker brown. The tail-feathers are marked as in examples 5 and 6; but the general tone is a shade more rufous or rusty. The markings on the quills are somewhat more rufous than in either of the Malaccan birds. On the whole it is impossible to discern any character which differentiates this example from the other three, more decided than the small differences that distinguish each of the three Malaccan individuals from one another. Some of the dimensions, however, are greater. Wing 5·0, tail 5·5, tarsus 0·62, middle toe 0·75, bill from forehead 0·93, width of gape 1·12. The graduation of the quills and rectrices is as in the others, and the tarsus as much, but not more feathered. The bill is as powerful. The iris is stated by Lieutenant W. Ramsay to be marbled buff, bill light madder, legs the same tinged with violet. The auricular plumes are not more developed than in Malaccan examples.

♂ No. 8, (?), neighbourhood of Darjeeling. Type of *Otothrix hodgsoni*, G. R. Gray. The whole of the feathers of the head are much darker brown than in the foregoing; each plume has a pair of fulvous subterminal spots, one on the outer margin of either web. These fulvous markings are very regular. Scapulars are all white or only so on the outer webs, some with broad black subterminal bands. Nuchal collar-plumes fulvous near the shaft, each terminated with a broad brown or black fringe, above which a broad white band, bounded by a narrow brown line. Dorsal plumage mixed rufous, brown, and black. Ground-colour of the caudal bands warm rufous and pale grey alternately, and all traversed with brown zigzag lines. The rufous bands are about double the breadth of the grey. The gular collar-plumes are white along the shaft; a brown transverse line, then a broad white band followed by a narrow brown terminal band fringed with fulvous. The most part of the pectoral and abdominal feathers are white with black subterminal triangular drops tipped white. Two outer pairs of rectrices indented with pure white on outer margin. Wing-coverts brown with rufous marginal markings; greater coverts tipped with white drops. Wing 5·1, tail 5·3, gape 1·1. Tarsus covered anteriorly a quarter of its length.

No. 9, nestling (Hodgson, *Mus. Brit.*). Above pale rufous, each feather with a subterminal straight brown transverse narrow band. White scapulars indicated. Below white, with a pale tawny brown transverse band on each feather. Gape 0·7.

BATRACHOSTOMUS CORNUTUS. (Plate XLVI. *in orig.*)

Podargus cornutus, Temm. Pl. Col. 159, "Bencoolen, Sumatra" (July 26, 1823).

P.Z.S.1877, p. 433. *Batrachostomus javensis* (Horsf.), Sclater, P. Z. S. 1863, p. 211, "Banjermassing, Borneo."

Batrachostomus javanensis (Horsf.), Salvadori, Ucc. Borneo, p. 112, ♀, "Sarawak" (1874); Walden, J. A. S. B. 1875, pt. ii. extra no. p. 84, "ex Sumatra."

Hab. Sumatra, Borneo.

Doria, according to Salvadori, *l. c.*, notes the iris of the female, ex Sarawak, as being light yellow (giallo chiaro).

In the British Museum is preserved an example of *B. cornutus*, in rufous plumage, from Banjermassing, identical with an example obtained by Mr. Buxton in South-east Sumatra. The national collection also possesses examples from Sumatra, from Banjermassing, and from Labuan, in grey spotted and striated plumage, which vary but slightly from one another. *Podargus cornutus* is the title substituted by Temminck for that of *P. javensis*, Horsf., in the belief that the Javan and Sumatran species were identical, on account of Horsfield's designation giving too restricted an idea of the geographical distribution of the species. The bird figured and described by Temminck (*l. c.*), however, is not in the absolute grey or mottled plumage of the male bird, but rather in the darker rufous-brown phase of the female, when the upper plumage is marked with fine narrow irregular transversal black markings. Dr. Jerdon (*l. c.*) treated *P. cornutus*, as figured in Shaw's General Zoology (xiii. pt. 2, p. 92, t. 41), as belonging to a species distinct from *B. javanensis*, Horsf. Shaw's engraving was copied from Temminck's plate (*l. c.*).

No. 1, ♀ (?) adult (?) ex Lampong district, S.E. Sumatra (*mus. nostr.*). General colour pale clear rufous, somewhat paler than in *B. affinis* ♀ adult, the description of which species will more or less apply to this kind in almost every respect but size. But the wings and tail are of a pale rufous-buff rather than rufous. The throat-feathers are nearly all white, and are without any transverse brown lines. Below they are bordered with a brown line, and then fringed with rufous. Many more of the pectoral feathers have white centres; and these are all more elongated than round on the upper breast. Most of the flank-feathers are largely centred with white, which does not seem to be the case in *B. affinis*, ex Malacca. The white markings, from being more numerous and larger, are much more conspicuous on the under surface than in *B. affinis*; and they reach to the vent. The greater wing-coverts are also faintly tipped with pale albescent dots. The elongated auricular plumes are rufous to the tips and not brown. Wing 5·50, tail 5·37, tarsus 0·68, middle toe 0·75, bill from forehead 1·12, width of gape 1·38. A few feathers on the anterior surface of tarsus.

No. 2, ♀ (?) adult, ex Banjermassing (*Mus. Brit.*), closely resembles the Lampong female (?), but has the gular plumes differently marked. They are white on both sides of the shaft; an irregular transverse brown line crosses the feathers when the down ceases, followed by a white or fulvous white band, which is bordered below by a brown transverse line, below which is a broad white band finally margined with brown. A few feathers on the tarsi. Wing 5·30, width of gape 1·30. Other dimensions as in Lampong example.

P.Z.S. 1877, p. 434.

No. 3, ♀ (?) young, an immature example of *B. cornutus* in rufous dress, ex Banjermassing, in the British Museum, is almost entirely of a pale isabelline-rufous, freckled with dark irregular transverse zigzag lines. Here and there, especially on the head, the uniform rufous feathers of the older stage have come in, and also a few of the white scapular, nuchal, and pectoral plumes. The mandibles are weak, evidently not full-grown; but the width of the gape is equal to that of *B. affinis* when adult, and the wing is longer than in that species, otherwise it would be difficult to determine to which species it belongs. Wing 5·10, tail 4·60, width of gape 1·10.

No. 4, ♂ (?) adult (?), ex Banjermassing (Motley, *mus. nostr.*). (Pl. XLVI. *in orig.*) Were it not for the larger dimensions, a more massive bill, and a wider gape, it would be most difficult to distinguish this bird from males of *B. affinis* as above described. I am unable to state any feature of its plumage whereby it can be distinguished, other than its having a broad nuchal collar consisting of several tiers of plumes, fulvous-brown at their insertion, crossed by an obsolete brown line, then a fulvous band, followed by a parallel brown line, then a white band, bounded by a third brown line, then another white band edged on either side with a fulvous terminal fringe and tipped with a black drop. The upper plumes of the series want some of these details which characterize the lowest tier of feathers. The ground-colour of the rectrices is perhaps more rufous brown than pale grey, tinged with tawny as in *B. affinis*. Wing 5·25, tail 5·0, tarsus 0·65, middle toe 0·75, bill from forehead 1·12, width of gape 1·38. Tarsus naked. This and the following are the two males referred to by Mr. Sclater (*l. c.*).

No. 5, ♂ (?) adult, ex Banjermassing (Motley, *Mus. Brit.*). Wing 5·20, gape 1·40, other dimensions as above; and the plumage offers no points of difference. Tarsus naked.

No. 6, ♂ (?) adult, ex Labuan (Lowe, *Mus. Brit.*). In this example there is scarcely a trace of rufous colouring. The colours of the plumage are brown, black, grey, and white. The colour of the rectrices is a pale grey, the dark transverse bands being formed by the greater number and density of the brown zigzag lines and markings. These bands are not all more or less parallel to one another, but narrow almost to a point inwards to the shaft. Wing 5·40, gape 1·35. Tarsus naked.

No. 7, ♂ adult, ex Sumatra (Wallace, *Mus. Brit.*). Has the general aspect of the Bornean examples and of those of *B. affinis* ♂. The wing-coverts are brown with rufous markings. The white nuchal collar-plumes are tipped with large black triangular drops. Pectoral plumes (other than the white) rufous lineated with brown. The caudal bands have alternately a grey ground and a rufous ground strangely contrasting, both traversed (but not unequally) with numerous zigzag brown lines. These bands are parallel. Wing 5·20, gape 1·35. Tarsus naked.

P.Z.S. 1877, p. 435.

BATRACHOSTOMUS JAVENSIS.

Podargus javensis, Horsf. Tr. L. S. xiv. p. 141, "Java" (1820).

Podargus javanensis, Horsf. Zool. Res. Java (1830)*.

Batrachostomus javanensis, Horsf., G. R. Gray, Gen. Birds, i. p. 45 (1846).

Batrachostomus javensis, Horsf., Blyth, J. A. S. B. 1847, p. 1680, partim.

Podargus javanensis, Horsf., Blyth, Cat. Calc. Mus. p. 81. no. 404, "ex Java," ♂ (1849); *conf.* Jerd. B. Ind. i. p. 190, sub *Otothrix hodgsoni*.

Batrachostomus javanensis, Horsf., Bp. Consp. i. p. 57 (1850), partim.

Batrachostomus javensis, Horsf., Moore, Cat. E. I. C. Mus. i. p. 112, "Java" (1854), type.

Podargus javanensis vel *cornutus*, Schlegel, Handleid. d. Dierkunde, i. p. 224, "Java, Sumatra, Borneo" (1857), partim.

Batrachostomus javanensis, Bp., Bernstein, J. für O. 1860, p. 428, "Java."

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* This is the date on the titlepage of the complete work; but it is evident, from Temminck's remarks (Pl. Col. 159, sub *P. cornutus*), that the part, no. 2, in which the plate appeared must have been published in the year 1823, or earlier.

Batrachostomus javanensis, Horsf., Walden, J. A. S. B. 1875, pt. ii. ex. no. p. 84, "ex Java."
Hab. Java.

Bernstein (*l. c.*), who gives an account of the nesting of the Java bird, states that the iris is pure sulphur-yellow. Careful examination of an authentic Javan example in rufous plumage (*mus. nostr.*), though lacking all the rectrices, has led me to doubt the specific identity of typical *B. javensis* with Sumatran and Bornean individuals. The bill, on comparison, is less massive, and the gape narrower. The dimensions of the wing and tarsus are less. Horsfield's type specimen still exists, but in a deplorable condition, in the Indian Museum at South Kensington. With the exception of one or two broken rectrices and a few scattered plumes, the whole of the webs have been destroyed by the moth. Yet enough of the type remains to show that the width of the gape, the form of the bill, and the dimensions of the wing and tarsus agree with my authentic Javan example; and I feel therefore justified in separating the Sumatran and Bornean species from that inhabiting Java. Still they are but representative forms of one another, and along with *B. affinis* constitute a small characteristic group.

♀ (?) not in quite perfect plumage (?), ex Java (*mus. nostr.*). Bright rufous or chestnut. Lengthened auriculars brown for the greater part of their length. Frontal long imperfect plumes brown, almost black. A yellow, chestnut-tinged supercilium. Feathers before the eye pale rufous-yellow at base, with a transverse rufous or else brown line near the tips, which are bright rufous. A series of nuchal plumes pale rufous white, then an irregular transverse rufous-brown narrow bar, followed by a broad white band, terminated with rufous-brown. Shorter scapulars white-centred towards the end, the white being separated from the rufous edging by a brown mark. Longer scapulars with all the outer webs and a small part of the inner, near the shaft, white, which colour is more or less enclosed by a brown or rufous-brown irregular line, edged with rufous, inner webs rufous. Chin tawny rufous. A patch of feathers commencing at the middle of the throat, and expanding lower down the throat, pure white and rufous-white, each feather being traversed by an ill-defined narrow pale-brown line; a brown subterminal line fringed with rufous. Many of the concealed pectoral feathers marked in a similar manner, but without the transverse narrow line. Longer pectoral plumes whity brown, edged with a rufous fringe. Back and abdominal feathers paler rufous, centred with white, and with an outer white terminal double or single spot, or with outer webs only white. Ventral region pale tawny-rufous. Quills rufous-brown, outer webs pale rufous, with faint brown marking. Wing-coverts uniform chestnut-colour. Under wing-coverts pale rufous faintly barred with brown. Wing 4·85, tarsus 0·50, middle toe 0·68, bill from forehead 0·87, width of gape 1·12.

P.Z.S.1877, p. 436.

The tarsus is not feathered much below the knee; otherwise the structure is normal. In Horsfield's type the dimensions are, wing 5·75, tarsus 0·50, width of gape 1·12, bill from forehead 0·87.

The male has not been described, nor have I succeeded in meeting with an example; but if Prince Bonaparte had authentic Javan individuals before him, we may infer from the passage above quoted (*l. c.*) that it possesses the grey and brown mottled plumage of *B. cornutus* and *B. affinis*. Indeed, if the specimen in the Calcutta Museum, described by Dr. Jerdon (*l. c.*), really came from Java, there can be no doubt on the point. Dr. Jerdon even states that this specimen was "barely (if indeed at all) distinguishable from *Otothrix hodgsoni*." It may even be doubted whether *B. affinis* can be considered distinct from *B. javensis*; but there appears to be a discrepancy in the dimensions, and the white on the throat in *B. affinis* seems to be restricted to the gular collar.

BATRACHOSTOMUS STELLATUS. (Plate XLVII. *in orig.*)

Podargus stellatus, Gould, P. Z. S. 1837, p. 43, "Java" (?).

Batrachostomus javensis (Horsf.), Blyth, J. A. S. B. 1847, p. 1181, partim, nec Horsf.

Podargus javanensis, Horsf., Blyth, Cat. Calc. Mus. p. 81, no. 404 partim, "Avis juv. ex Malacca," nec Horsf. (1848).

Batrachostomus javanensis (Horsf.), Blyth, J. A. S. B. 1849, p. 807, nec Horsf.

Podargus parvulus, T., Schlegel, Handleid. d. Dierkunde, Atlas, t. ii. f. 15, "Sumatra" (1857).

Batrachostomus stictopterus, Cab. Mus. Hein. i. pt. ii. p. 124. no. 370, "Malacca," ♂ (1859–60).

Batrachostomus stellatus (Gould), Moore, Cat. E. I. C. Mus. i. p. 388, "Malacca" (1854); Sclater, P. Z. S. 1863, p. 212, "ex Malacca;" Salvadori, Ucc. Borneo, p. 113, "Sarawak," ♂ (1874).

P.Z.S.1877, p. 437. *Batrachostomus javanensis* (Horsf.), Walden, J. A. S. B. 1875, pt. ii. ex. no. p. 84, partim, "ex Malacca, Borneo," nec Horsf., ♀.

Batrachostomus stictopterus, Cab. Walden, *l. c.*, "ex Malacca, Borneo," ♂.

Batrachostomus affinis, Blyth, Hume, Str. F. 1876, p. 376, nec Blyth; Blanford, Ibis, 1877, p. 251, nec Blyth.

Hab. Malacca, Borneo, Sumatra, Java (?).

Mr. Everett has noted on the label of a rufous bird from Bedi, Borneo (*mus. nostr.*), and marked a male, that the iris is "light yellow," the feet ochre, and the bill pale brown. Doria (Salvad. *l. c.*) gives the colour of the iris of a Sarawak example as being light yellow (giallo chiaro).

The British Museum possesses a single specimen of this species in brown plumage, which is labelled "Sumatra." Its occurrence in that island is probable; but the correctness of the locality on the label is not beyond question; the skin is of the characteristic Malaccan make. The figure given by Professor Schlegel (*l. c.*) of *P. parvulus* undoubtedly represents *B. stictopterus*. It is stated to have been taken from an old male from Sumatra. The wing-coverts are spotted; and there are no white throat- or breast-markings.

The type of *P. stellatus*, Gould (Pl. XLVII. *in orig.*), now in my collection, is marked "Java" on the label. In the original description the length of the wing is stated to be four inches, whereas in the type specimen it is five. Beyond the word "Java" on the label, there is nothing to confirm its Javan origin. It has, however, no appearance of being a Malaccan trade-skin. Mr. Gould informs me that the prominent white spots on the major coverts suggested to him the specific designation of *stellatus*. The description of *B. stictopterus*, Cab., was taken from a Malaccan individual in the rufous-brown phase of plumage.

Without having the advantage of the observations of field collectors to assist us, it is difficult to select from a large series of this species any one example as illustrative of the adult bird.

When compared with fully-plumaged rufous adults of the other species, the absence of their finished white markings and the decided coloration on the under plumage lead to the inference that *B. stellatus*, as it always seems to come to us from Malacca and Borneo, represents an intermediate stage of plumage. For long it was considered by several Indian writers, myself among the number, to be the young stage of *B. javanensis*, the pallid rufous-margined lower pectoral and abdominal feathers being very similar to what we find in *B. affinis* juv. Assuming that birds with the caudal bands complete, the chin and throat uniform rufous, and the back unfreckled are the most adult, I will describe the following example:—

♀ (?) adult (?), ex Malacca. General aspect above bright rufous. Frontal plumes tawny rufous, also supercilium. Crown, occipital crest-plumes, auriculars, cheeks, back, wing-coverts, and uropygium rich deep chestnut. A series of nuchal plumes grey at the insertion, lower down slightly tinged with rufous, then a narrow transverse blackish line, followed by a broader pure white band edged with black, and then, in some, a rufous tip. A black-edged white nuchal collar is thus formed. The minor wing-coverts are unspotted; but at the tips of the greater coverts are to be found a large white spot, mostly occupying the outer web and bordered above by a dark brown line. In some this dark line surrounds the inner margin of the white spot. Some of the scapulars have the greater part of both webs of the lower half white; others have only the outer webs white. These white marks are all more or less edged with brown. The primaries and secondaries have their inner webs uniform brown, the outer webs being pale rufous with irregular rufous-brown marks at intervals, adjoining the shaft; the exposed part of the tertiaries is more or less uniform rufous. The upper tail-coverts are rufous, with one or two pairs of tawny-rufous spots or transverse bars. Rectrices dull rufous, stippled with a few minute brown dots, and traversed by five or six narrow tawny-rufous bands, each being margined above and below with a narrow brown line. Terminal narrow fringe of rectrices dark brown, in some surrounded by a rufous edging; in the laterals the pale bands on the inner webs are mostly almost white. Under surface of rectrices as above, but all tints much paler. Chin and throat dingy rufous, some of the throat-feathers and most of the upper pectoral having pallid tawny centres, most conspicuous on the breast, crossed by a pale brown line and fringed with bright rufous. This combination imparts a scale-like appearance to the breast, but has a slight resemblance to the pure white breast and throat-banding in *B. affinis* ♀. The lower pectoral feathers are of the same character, but, being much larger, more of the pallid tawny hue is exposed. The abdominal and flank-plumes are of the same pallid hue, but are scarcely fringed with bright rufous. The ventral region and under tail-coverts same as abdomen, but with still less rufous edgings. The narial bristles are tawny rufous, darker towards the tips. Under wing-coverts almost vinous tawny, varied with rufous or brown; axillaries white. Wing 5·0, tail 5·25, tarsus 0·50, middle toe 0·63, bill from forehead 1·12, width of gape 1·31.

P.Z.S. 1877, p. 438.

In some examples the nuchal collar-plumes have two transverse brown bars above the white. The white portion and, indeed, the whole of the markings also occur tinged with rufofulvous.

Mr. Gould's type specimen scarcely differs from the above description. Its rufous plumage is of a deeper bay tone; the caudal bands do not touch the shaft, and they are rufous, and not tawny rufous. This phase is to be found in Malaccan and Bornean examples. In less-mature (?)

examples the dorsal plumage, the scapulars, the major coverts, and tertiaries are finely striated with black, with occasional more definite black lines.

♂ (?) adult (?), ex Malacca. In Malaccan collections examples are as frequently present in which the rufous or rufous-bay colouring is replaced by a dark brown tint, sometimes with a rufous tinge, the markings being similar to those of the rufous birds. The caudal bands or spots are sometimes of a rufous tint. These brown birds sometimes occur with the dorsal plumage finely striated with black and mottled with dark rufous. Wing 5·0, tail 5·25, width of gape 1·31.

P.Z.S. 1877, p. 439.

A Bornean (Bedi) example marked ♂ by Mr. Everett (*mus. nostr.*) is in the rufous-bay plumage, and is not distinguishable from Malaccan individuals (*mus. nostr.*). If the sex was correctly ascertained, it would appear that both sexes wear similar plumage. Wing 4·90, tail 5·0, width of gape 1·37.

In *B. stellatus* the auricular plumes are much less developed than in any of the other species. The front of the tarsus for about a quarter of its length is feathered. The bill is large and massive, and the gradation of the remiges and rectrices is normal.

BATRACHOSTOMUS AURITUS.

Podargus auritus, Vigors (Griffith), Tr. Cuv. An. Kingd. ii. p. 114, t. (1829); Vigors, App. Mem. Sir S. Raffles, p. 652, "Sumatra" (1830).

Batrachostomus auritus (Vigors), Gould, Ic. Av. pt. ii. p. 13, t. 7 (1838); Sharpe, P. Z. S. 1875, p. 99.

Bombycistomus fullertonii, Hay, J. A. S. B. 1841, p. 573, woodcut, "Sumatra."

Podargus, sp. —, Blyth, J. A. S. B. 1842, p. 106, "Malacca."

Podargus fullertonii, Hay (?), Blyth, *t. c.* p. 798, "Malacca."

Hab. Sumatra, Malacca, Borneo.

The Malaccan bird has still to be compared with the typical Sumatran form. I have compared the Bornean example with the Malaccan, and can discern no distinction.

The species is too well known to require description.

The tarsus is well feathered anteriorly in both sexes for more than half its length.

BATRACHOSTOMUS, sp. n.

An example in rufous-brown mottled and striated plumage of an undescribed species of *Batrachostomus* was obtained in Mindanao by the 'Challenger' expedition. It is labelled a female, and will be described in my forthcoming report on the Philippine birds collected by the expedition. The tarsus is feathered anteriorly for a quarter of its length.

BATRACHOSTOMUS MONILIGER. (Plates XLVIII., XLIX. *in orig.*)

Batrachostomus moniliger, Layard, Blyth, J. A. S. B. 1849, p. 806, ♀, "Ceylon."

? *Podargus javanensis*, Horsf. Jerdon, Madr. J. L. Sc., nec Horsf.

? *Batrachostomus moniliger*, Blyth, Jerdon, B. India, i. p. 189, "Southern India" (1862).

Batrachostomus moniliger, Blyth, Holdsworth, P. Z. S. 1872, p. 420, "Ceylon."

Batrachostomus punctatus, Hume, Str. F. 1874, p. 354, ♂ ?, "Ceylon;" *op. cit.* 1876, p. 377.

Batrachostomus moniliger, Layard, Walden, J. A. S. B. 1875, pt. ii. ex. no. p. 84. P.Z.S.1877, p. 440.

Batrachostomus punctatus, Hume, Blanford, Ibis, 1877, p. 251, ex Ceylon.

? *Batrachostomus moniliger*, Layard, Hume, Str. F. iv. p. 376, "Travancore;" Blanford, *t. c.* p. 252.

Hab. Ceylon, Travancore.

Judging from Mr. Hume's detailed description (*l. c.*) of the specimen of a male obtained by Mr. Bourdillon in Travancore, the range of the Ceylon bird may be safely extended to that district of India. The iris of one of Mr. Bourdillon's specimens is stated to have been bright yellow.

No. 1, ♀, almost adult (?) (Pl. XLIX. *in orig.*), Rattabown* or Kattabown, Ceylon (*mus. nostr.*). Bright rufous; of the same shade on the head and wing-coverts as *B. affinis* ♀, but elsewhere paler. Some stray rufous-brown feathers on the head and shoulders. Recurved frontal plumes tawny rufous. Feathers in front of the eyes tawny rufous, with a distinct brown subterminal transverse line or band and a narrow tawny-rufous terminal fringe. Behind these and passing over the eyes some longer feathers, black-tipped, with outer webs pale tawny-white, inner webs rufous, thus forming a pale supercilium. Long auriculars tipped brown. Four rows of nuchal feathers rufous, with a broad white subterminal band confined between a narrow irregular rufous-brown line above and below, the terminal fringe being rufous. In some of the nuchal plumes the markings are better-defined than in others, where they become obsolete. The whole presents the appearance of an irregularly formed white collar. Lesser wing-coverts unspotted, greater with bold, ovoid, larger or smaller white spots at their tips, mostly situated on the outer webs, and circumscribed more or less above and on their inner margins by a brown line. The scapulars are pure rufous, tipped by a minute white or fulvous spot, margined above with dark brown or black. The tertiaries are pale rufous, much freckled with brown, and having still minuter terminal spots of the same character as those on the scapulars. The primaries and secondaries have their inner webs brown and their outer pale rufous, the brown of the inner webs running through at intervals and forming narrow irregular bars. Many of the quills have minute terminal white spots; and all but the first have their tips clouded or freckled with rufous. The axillaries are rufous brown. Under wing-coverts pale rufous, with some grey and sandy white feathers. The chin is tawny rufous; the upper throat bright rufous, with no concealed white-marked plumes. Surrounding the lower throat a series of rufous plumes, broadly tipped with pure white, which is separated from the rufous above by a narrow irregular brown line; below, the white marks are faintly fringed with pale tawny. This white necklace is followed by the pure rufous of the upper breast, among which are no concealed white-marked feathers. Lower breast-feathers of the same rufous, but more or less broadly tipped with white; an irregular narrow brown line separating the white from the rufous. This lower pectoral white band descends to the flanks. Abdominal feathers and under tail-coverts pale dingy rufous, P.Z.S.1877, p. 441.

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* The writing on the label is most difficult to decipher.

mostly tipped with subdued whitish spots, surmounted by a narrow irregular brown line. The middle rectrices are pale rufous, much freckled with pale brown zigzag lines and traversed by seven or eight obscurely defined dark brown bands; slight indications of white on the margins of the webs; laterals with the white indentations well marked, all tipped with a narrow white or rufous-white fringe, and a small subterminal black mark. Frontal bristles tawny-rufous and black-tipped. Wing 4·50, tail 4·50, tarsus 0·50, middle toe 0·63, bill from front 0·80, width of gape 1·25.

The bill is massive; the gradation of remiges and rectrices normal; the upper fourth of the exterior part of the tarsus is feathered.

No. 2, ♀ (?), Ceylon (*mus. nostr.*). General colour deep chestnut-bay or rufous-brown. This example differs by its deep tone of rufous from the last, which, while of a general bright chestnut, possesses a few feathers on the head and shoulders and all the axillaries of the deep shade of rufous found in this example. In both the distribution of the white markings is the same; but in the present one the white bars and the terminal rufous-brown fringes of the nuchal collar-plumes are more pronounced. The minute black and white terminal dots on the scapulars and tertiaries are less pronounced; there are fewer and less distinct brown markings on the rufous outer webs of the quills. The rectrices scarcely differ; but the under tail-coverts are more distinctly spotted. The feathers before the eye are darker, although also banded by a black line. Wing 4·50, tail 4·40, tarsus 0·60, middle toe 0·65, bill from forehead 0·81, width of gape 1·25. Structure as in No. 1.

No. 3, ♂ (*fide* Mr. H. Nevill), immature (?), Ratnapura, Ceylon (*mus. nostr.*). General aspect greyish brown, much mixed with rufous-brown. Chin and throat dingy pallid rusty; on the lower throat pure rufous feathers, with a broad white terminal band separated from the rusty colour by an irregular dark-brown line; no rufous or brown terminal fringe. Breast uniform rusty, with a few feathers on the sides, but not on the middle, broadly tipped with white and traversed with a zigzag brown separating line. Abdomen and flanks pallid fulvous-rusty, each feather for more than half of its terminal length greyish white, freckled with a number of minute irregular transverse brown lines; many tipped with minute whitish spots. Ventral feathers pallid fulvous-rusty, and only tipped with vermiculations; others and the under tail-coverts almost uniform fulvous-rusty, with pallid terminal spots and subterminal brown marks. Frontal feathers grey at insertion, freckled with brown, then rusty fulvous, with a subterminal black spot and a terminal minute rusty mark. Feathers of the head brown, with similar terminal marks. Superciliary plumes mostly rusty fulvous or buff on outer webs and brown on inner, with a black terminal dot, giving the supercilium a uniform buff appearance. Elongated auriculars rusty-tawny at base, freckled with brown, and pure brown at the tips. Nape with a distinct rufous tinge; a few feathers on each side broadly terminated with white, which is margined above by a narrow brown line; a few feathers on the middle of the nape slightly tipped with pure white, some with fulvous. A rudimentary uncompleted nuchal collar is thus formed. Back and uropygium rufous-brown like the nape, marked with cloudy brown striations and a few black terminal dots. Upper tail-coverts rufous brown, with pale lateral subdued small spots or quasi-bands. Scapulars greyish white, much marked with irregular pale-brown striæ, tipped pale rufous, with a small terminal black spot almost encircling a minute rufous point. The lower scapulars are

P.Z.S.1877, p. 442.

thus marked on the outer webs only, the inner being rufous, clouded with brown. Wing-coverts rufous brown. The major and secondary coverts purer rufous and tipped with bold round or ovoid white marks, some tawny, surrounded above and on their inner margins with black. Many of the greater coverts are traversed by brown zigzag lines; and the white tips are irregularly formed and incomplete. The quills are brown, the outer webs being indented with pale rufo-fulvous. The tertiaries brown, mottled with grey and rufous-grey, which resolves itself into more or less definite bands on the sides of the webs. Middle rectrices rufous-brown, with eight or nine pale fulvous-grey narrow transverse bands much dotted with brown; laterals brighter rufous. Under wing-coverts pale sordid fulvous grey. Wing 4·68, tail 4·50, tarsus 0·50, middle toe 0·75, bill from forehead 0·90, width of gape 1·20. Structure as in foregoing.

No. 4, ♂ (?) adult, Ceylon (*mus. nostr.*). (Pl. XLVIII. *in orig.*) General aspect above brown. Group of feathers before the eye pale rusty, with a dark brown subterminal bar; a narrow frontal band similarly marked. Superciliary plumes pale rusty white, mostly on the outer webs, freckled with brown on the inner and traversed with a subterminal dark brown irregular line. Feathers of the head brown, with minute fulvous terminal and marginal dots and subterminal black spots, all obsoletely freckled with fulvous, and many mixed with grey. Occipital crest-plumes without any fulvous dots. Elongated auriculars tawny, much striated with brown, and tipped almost black. Shorter auriculars tawny, with pale shafts. Nuchal plumes marked like occipital crest, but with a more tawny-rufous ground and with a subterminal white band confined between an upper and a terminal dark brown transverse line. A well-defined nuchal collar is thus formed of two or three rows of plumes. Interscapulars and back marked and coloured like the occipital crest. Uropygial plumes rusty, irregularly vermiculated with dark brown, some terminal markings being black. Upper tail-coverts the same, but with obsolete pale rusty lateral ocelli. Rectrices pale rusty fulvous, mixed with grey throughout, much vermiculated by fine irregular brown lines and with some seven or eight darker rufous transverse bands, separated from the paler by dark brown, almost black, irregular lines, these being broader and bolder than the fine vermiculations. Laterals with a brighter tawny-rufous ground-colour. External short pair pale tawny-rufous, with pure white marginal spots. Undersurface of the rectrices pale fulvous or rusty brown, the black intermediate narrow bands showing through. Wing-coverts rufous brown, traversed with distinct dark-brown irregular lines. Some of the minor coverts with rusty-fulvous terminal spots. Many of the other wing-coverts with large ovoid pure white terminal spots, with a dark brown margin above and on their inner margins. Shorter scapulars with the inner webs fulvous or rusty, crossed by dark brown lines or narrow bars. Outer webs pale greyish white, crossed by fine zigzag brown lines and black terminal dots. Some of the longer the same, but with ill-defined white ocelli on their outer margins. Other long scapulars alike on both webs, pale rufous, much vermiculated with pale greyish-brown and with broad intervening incomplete bands of white or greyish-white. Quills dark brown, which run at broad intervals through the pale rufous of the outer webs. Tips of the quills mottled with pale rufous. Tertiaries pale rufous or tawny-rufous, much striated with fine irregular brown lines; a bolder dark brown subterminal mark. Inner tertiaries obsoletely marked with four or five pale greyish-white bands. Chin and throat rusty, with brown transverse lines. Some of the lateral feathers with a dark brown or black subterminal spot. Lower throat-plumes with terminal large pure

P.Z.S. 1877, p. 443.

white drops, margined above with a narrow dark brown line, thus forming a white necklace. Upper pectoral plumes like those of the chin and throat, but with subterminal dark brown marks and some admixture of grey in the ground-colour, some faintly tipped with greyish white, others with fulvous. Lower pectoral plumes pale fulvous-grey, with transverse dingy brown irregular lines, and broadly tipped with pure white, faintly edged with brown. Lower down these white-tipped plumes have a much more white than fulvous ground at the base. Abdominal feathers fulvous, terminated with white, and transversely striated with pale greyish brown. Ventral region and under tail-coverts fulvous-rusty, with obscure white terminal spots and subdued subterminal brown marks. Under wing-coverts the same. Axillaries dingy fulvous-grey, tipped almost white. Frontal rigid plumes and bristles black. Wing 4·75, tail 4·75, tarsus 0·50, middle toe 0·70, bill from forehead 0·90, width of gape 1·20.

Structure normal. Tarsus feathered anteriorly for a quarter of its length.

No. 5, ♂ (?), ex Malabar ? (*Mus. Brit.*). This specimen is labelled Madras; but its mode of preparation is what we find in all west-coast trade skins. None of my Ceylon examples resemble it excepting in the white collars, scapulars, and pectoral plumes; and these last are not so prominent as in *B. moniliger* ♂, ex Ceylon.

General coloration mixed grey, fulvous, black, and white; only traces of pale rufous. Frontal plumes tawny at base, much vermiculated with brown and with black subterminal spots or bands. Feathers of the head and occipital crest pale ashy brown, many with black subterminal spots, and all tipped with very pale fulvous; equally pale fulvous spots on either web; others so marked and coloured, but without the black spots. Feathers comprising the nuchal P.Z.S. 1877, p. 444. collar tawny at base, with a few fine transverse irregular pale brown striæ, succeeded by a broader brown mark and then a broad white band, tipped with black and margined with fulvous. Elongated auriculars tawny at base, traversed by numerous irregular fine pale brown lines and tipped dark brown. Space before the eye buff. A supercilium composed of buff feathers unstriated on outer webs, but lineated with brown on inner. Ear-coverts almost unmarked, pale ferruginous-buff. Shorter scapulars pure white, with several transverse zigzag brown lines, a black tip with a faint fulvous terminal dot. Inner webs of longer scapulars with a grey (not a white) ground; the inner web of others tawny-rufous, all lineated transversely with brown. Innermost tertiaries pale grey, with numerous transverse pale brown irregular lines and a terminal black mark. Back like the head. Uropygium brown, with fulvous transverse marks; no terminal black spots. Upper tail-coverts tawny rufous, with a dark brown subterminal mark and a pallid tawny terminal dot. Ground-colour of middle pair of rectrices rufo-fulvous, much mottled with brown, towards apex grey, marked with brown and black. No distinct banding. Next pair with bands more defined. Short outer pair pale ferruginous, with brown markings. Chin and throat pale fulvous, with fine transverse brown lines; some with broader brown subterminal marks and terminal almost white marks. A gular collar formed by broad pure white terminal bands to the lower throat-plumes, surmounted by a narrow brown intersecting line. The pectoral feathers, below this collar, pale brown, lineated as on the throat, and with faint albescent tips. Lower pectoral plumes pale fulvous, with broad white terminal halves much striated with dark brown. Abdominal plumes of the same character, but less striated and the white confined to the tips, bounded above by a brown line. Under tail-coverts pure pale rusty buff, with a subterminal pale brown line. Quills brown, much indented on outer webs with pallid tawny rufous, shading into almost pure white. Some of the inner primaries much mottled at apex, with grey or tawny-rufous ground. Under wing-coverts pure tawny-rufous. Wing-coverts dark brown, traversed and tipped with rufous. Great stiff narial plumes black, with tawny specks at base. Wing 4·90, tail 3·50, tarsus 0·60, middle toe without nail 0·60, bill from forehead 0·80, gape 1·30.

This bird may represent a phase of Mr. Bourdillon's Travancore species, which is possibly distinct from the true *B. moniliger*.

EXPLANATION OF THE PLATES (*in orig.*).

PLATE XLV.

Batrachostomus affinis ♀, No. 1, p. 427, from a skin from Malacca. *Mus. nostr.*

PLATE XLVI.

B. cornutus ♂, No. 4, p. 434, from a skin collected by A. R. Wallace at Banjermassing. *Mus. nostr.*

PLATE XLVII.

B. stellatus ♀, p. 437, from Mr. Gould's typical specimen. *Mus. nostr.*

PLATE XLVIII.

B. moniliger ♂, No. 4, p. 442, from a skin from Ceylon. *Mus. nostr.* P.Z.S.1877, p. 445.

PLATE XLIX.

B. moniliger ♀, No. 1, p. 440, from a skin collected at Rattabown, Ceylon. *Mus. nostr.*

Reports on the Collections of Birds made during the Voyage of H.M.S. 'Challenger.'—No. II. *On the Birds of the Philippine Islands.* By Arthur, Marquis of Tweeddale, F.R.S., President of the Society. [From the 'Proceedings of the Zoological Society of London,' read June 19, 1877*.] P.Z.S.1877, p. 535.

The 'Challenger' Expedition, during its stay in the Philippine archipelago, visited six islands, viz. Panay (Ilo-ilo), Luzon (Manila), Zebu, Camiguin, Malanipa, and Mindanao (Zamboanga and Pasananca). It is not on record that two of these islands, Camiguin and Malanipa, had ever been previously visited by any ornithological collector; while from Mindanao only some nineteen species of birds were known. Dr. Steere, at about the time the 'Challenger' was near Mindanao, collected many additional species of birds on that island, as he had also done in the islands of Zebu and Panay; and as the results of his researches have already been made known by

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* [Published October 1, 1877.—Ed.]

P.Z.S.1877, p. 536. Mr. Bowdler Sharpe*, some of the discoveries made by the 'Challenger' naturalists have been anticipated. In order that the exact course taken by the 'Challenger' may be recorded, with the dates on which the expedition arrived at and departed from the different islands, I transcribe the following extracts from Mr. J. Murray's ornithological note-book, adding to each extract the names of the birds, as I have determined them:—

"Ship arrived at Ilo-ilo on the 28th [October 1874], at 5 P.M. On the 30th the following birds were shot. These are all from the island opposite the town:—

[*Osmotreron axillaris.*
Broderipus acrorhynchus.
Loriculus panayensis.
Entomobia gularis.
Sauropatis chloris.
Pelargopsis gigantea?
Centrococcyx viridis.
Corvus philippinus.
Corydalla lugubris.
Lalage dominica.
Orthotomus castaneiceps.
Arachnechthra jugularis.]

"The ship arrived at Manila on the 11th January, 1875, and left there on the 14th January. The following two birds were shot from the ship during the stay:—

[*Larus ridibundus.*
Hydrochelidon hybrida.]

"The ship arrived at Zebu on the 18th January, 1875, and left on the 24th. During the stay Percy and some of the officers shot the following birds:—

[*Broderipus acrorhynchus.*
Artamus leucorhynus.
Sauropatis chloris.
Haliastur intermedius.
Numenius phæopus.
Demiegretta sacra.
Hypsipetes philippinensis.
Lanius lucionensis.
Merops philippinus.]

"Parties landed on the volcanic island of Camiguin on the 26th January, 1875, for a few hours in the afternoon, and the following birds were shot:—

[*Corvus philippinus.*
Calornis panayensis.
Sauropatis chloris.
Arachnechthra jugularis.
Tringoides hypoleucus.]

"On the 30th of January a party landed, early in the morning, on the island of Malanipa, Basilan Straits, near Zamboanga, and returned to the ship at 2 P.M. The following birds were shot:—

[*Eudynamis mindanensis.*
Myristicivora bicolor.
Haliastur intermedius.
Tanygnathus lucionensis.
Pelargopsis gigantea.
Numenius phæopus.
Nectarophila juliæ.
Totanus incanus.
Hypothymis azurea.]

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* Trans. Linn. Soc. ser. 2, Zool. vol. i. p. 307. I am much indebted to Mr. Sharpe for his courtesy in permitting me to peruse his paper while it was passing through the press. Without this assistance it would have been impossible for me to have completed this report at so early a date.

"On the 1st February, 1875, a party of four officers and three men left the ship with tent &c., and went up to the high land beyond Zamboanga. The tent was pitched in a valley called Pasananca, at a distance from Zamboanga of some seven miles. The tent and baggage had to be transported on horseback. The party remained at the spot the 2nd, 3rd, and 4th, and returned to the ship on the 5th, at about midday. The following birds were obtained by the party, and were skinned by Percy at the tent:— P.Z.S. 1877, p. 537.

[*Buceros mindanensis.*
Broderipus acrorhynchus.
Merops philippinus.
—— *bicolor.*
Entomobia gularis.
Pelargopsis gigantea.
Dicrurus striatus.
Hypsipetes rufigularis.
Ixus goiavier.
Phabotreron brevirostris.
Batrachostomus septimus.
Harpactes ardens.
Erythropitta erythrogastra.
Chrysocolaptes lucidus.
Prioniturus discurus.
Calobates melanops.
Dicæum mindanense.
Haliastur intermedius.
Tringoides hypoleucus.
Eurystomus orientalis.
Rhynchæa capensis.
Gallinago stenura.]"

Two more species were obtained at Zamboanga, which are not included in Mr. Murray's notes:—

Charadrius fulvus.
Sterna bergii.

It will be seen that twelve species were obtained in Panay, two in Luzon, nine in Zebu, five in Camiguin, nine in Malanipa, and twenty-four in Mindanao.

Mr. Murray's field-notes will be found added under the head of each species, included in brackets, together with the collection-numbers.

The ornithological results of the 'Challenger's' short stay in the Philippine archipelago may be summarized as follows:—

Specimens obtained, 98.
Species obtained, 49.
New species obtained, 7:—

Loriculus panayensis.
Batrachostomus septimus.
Dicrurus striatus.
Nectarophila juliæ.
Buceros mindanensis.
Dicæum mindanense.
Phabotreron brevirostris.

Genera added, 2:—

Batrachostomus.
Demiegretta.

Habitat determined within the archipelago, 1:—

Rhynchæa capensis.

Habitat corrected, 1:—

Chrysocolaptes lucidus.

Known species added to the Philippine fauna, 4:—

Totanus incanus. *Demiegretta sacra.*
Gallinago stenura. *Sterna bergii.*

P.Z.S. 1877, p. 538. Range of known Philippine species extended within the archipelago, 23:—

	Malanipa.	Mindanao.	Camiguin.	Panay.	Zebu.
Tanygnathus lucionensis	*				
Haliastur intermedius	*	*	..	..	*
Merops philippinus	..	..	..	..	*
Pelargopsis gigantea	*				
Entomobia gularis	..	*			
Sauropatis chloris	..	..	*	*	
Eudynamis mindanensis	*				
Artamus leucorhynchus	..	..	..	..	*
Hypothymis azurea	*				
Broderipus acrorhynchus	..	..	..	*	
Ixus goiavier	..	*			
Hypsipetes rufigularis	..	*			
Calobates melanope	..	*			
Corydalla lugubris	..	..	..	*	
Arachnechthra jugularis	..	..	*		
Corvus philippinus	..	*	*	*	
Calornis panayensis	..	..	*		
Munia jagori	..	*			
Osmotreron axillaris	..	..	..	*	
Myristicivora bicolor	*				
Charadrius fulvus	..	*			
Numenius phæopus	*				
Tringoides hypoleucus	..	*	*		
	7	9	5	5	3

1. PRIONITURUS DISCURUS.

Psittacus discurus, Vieill. Gal. des Ois. i. p. 7, t. 76, "Mindanao" (1825).

Prioniturus discurus (Vieill.), Walden, Trans. Zool. Soc. ix. p. 132. no. 2 [*anteà*, p. 300].

[No. 431, ♂. Pasananca. Eyes grey. It frequents the banana-trees, and feeds on their fruit, of which the stomach was full.]

Luzon and Guimaras individuals do not differ from this typical example.

2. TANYGNATHUS LUCIONENSIS.

Psittacus lucionensis, Linn. Syst. Nat. i. p. 146. no. 31 (1766); Walden, *t. c.* p. 133. no. 8 [*anteà*, p. 301].

[No. 399, ♂. Malanipa. Eyes white.]

Does not differ from typical examples. The locality is new.

3. LORICULUS PANAYENSIS, n. sp.

"*Loriculus regulus*, Souancé," Sharpe, Trans. Linn. Soc. ser. 2, Zool. vol. i. p. 313.

[No. 348, ♂.
No. 349, ♀.} Ilo-ilo. Eyes brown; feet orange; bill red. Stomach had seeds.

♂. Grass-green, below lighter. Forehead and sinciput bright blood-red; vertex and occiput green, washed with golden yellow; a narrow band, separating the red sinciput from the golden vertex, yellow. A golden mark across the nape. Uropygium and upper tail-coverts dark scarlet. A decided line round the mouth and base of mandible verditer-blue. Breast yellowish green. Outer webs of quills dark green, inner black, above; quills underneath black, most of the inner webs of primaries being blue, and all of the inner webs of the remaining quills. Rectrices dark green, blue underneath. Short under wing-coverts dark green, longer blue. Bill coral-red. P.Z.S. 1877, p. 539.

♀. Like the male, but differs in having the vertex and occiput green, and no blue round the mouth

	Wing. in.	Tail. in.	Tarsus. in.	Bill from nostril. in.
♂	3·62	2·12	0·37	0·43
♀	3·56	2·00	0·37	0·43

This species above closely resembles *L. regulus*, ex Negros, but differs in wanting the red pectoral patch and in having blue feathers at the base of the mandible. The female only differs from that of *L. regulus* in having no blue feathers round the mouth, though a few are present at the top of the throat.

Dr. O. Finsch has remarked (Ibis, 1874, p. 208) that *L. chrysonotus* has no orange mark on the nape; but I find this mark very conspicuous in a specimen belonging to my series of the species, ex Zebu.

4. HALIASTUR INTERMEDIUS.

Haliastur intermedius, Gurney, Ibis, 1865, p. 28; Walden, *t. c.* p. 142. no. 17 [*anteà*, p. 309].

[No. 373, ♂. Zebu. Eyes brown. Shot from the ship at anchorage at Zebu.

No. 374, ♂. Zebu. Eyes brown. Stomach contained offal.

No. 398, ♂. Malanipa. Eyes yellow.

No. 434, ♂. Pasananca. Eyes brown.]

Not previously recorded from these three localities.

5. CHRYSOCOLAPTES LUCIDUS.

Picus lucidus, Scop. Del. Fl. Faun. Insubr. ii. p. 89. no. 51 (1786); Walden, *t. c.* p. 147. no. 32 [*anteà*, p. 314].

[No. 430, ♂. Pasananca. Eyes red.]

Unless *C. maculiceps*, Sharpe (*t. c.*), belongs to this species, this Mindanao specimen appears to be the first that has been brought to England since Sonnerat's day; for now that I have the opportunity of comparing it with *C. hæmatribon*, I doubt the correctness of the identification of Jagor's young bird *ex* Luzon by Dr. v. Martens (J. f. Orn. 1866, p. 20. no. 110), and for the reason that, first, *C. lucidus* is a representative form of *C. hæmatribon*, and secondly, if a Luzon bird, it would have been found by some one of the collectors who have well worked the vicinity of Manila since Sonnerat collected in its neighbourhood. If this be so, Sonnerat must have obtained his own type specimen and that of Buffon, not in Luzon, but at or near Zamboanga, where the naturalists of the 'Challenger' procured this one. The species is P.Z.S. 1877, p. 540.

accurately described, from Sonnerat's type specimen in the Paris Museum, by Malherbe (Monogr. Picidæ, ii. p. 85), although his figure (*op. cit.* t. 16. fig. 3) shows too little carmine and too much golden on the wings, and thus is inconsistent with his own description.

Mr. Sharpe's type specimen has unfortunately gone to America. It was obtained in Basilan by Mr. Steere, and, from the description and specific title, seems to have been a male in imperfect plumage. It has the concealed white spots on the webs of the outer rectrices, which constitute one of the peculiar characters of *C. lucidus*. Sonnerat, in his plate (Voy. N. Guin. pl. 37), exhibits these spots on all the rectrices; but this is an error. If not the same as *C. lucidus*, *C. maculiceps* is a very closely allied representative form. *C. lucidus*, together with *C. xanthocephalus* and *C. hæmatribon*, form a small subgroup of which the only other member occurs in Ceylon (*C. stricklandi*); but *C. lucidus*, with its partly golden wings, seems to be a connecting link with the typical species of *Chrysocolaptes*.

6. HARPACTES ARDENS.

Trogon ardens, Temm. Pl. Col. 404, ♀, "Mindanao" (1826); Walden, *t. c.* p. 149. no. 34 [*anteà*, p. 316].

[No. 428, ♂. Pasananca. Legs bluish; bill orange; eyes hazel. Stomach had insects.]

Luzon males do not differ from this typical example.

7. MEROPS PHILIPPINUS.

Merops philippinus, Linn. Syst. Nat. ed. 13 (Vindob.), i. p. 183. no. 5 (1767); Walden, *t. c.* p. 149. no. 35 [*anteà*, p. 316].

[No. 380, ♂. Zebu. Eyes red.
No. 412, ♂.
No. 413, ♀. } Pasananca. Bill and feet black. Eyes red.]

These examples in no respect differ from Luzon and Negros individuals, or, indeed, from examples from any part of the Indian region. Not hitherto recorded from Zebu.

8. MEROPS BICOLOR.

Merops bicolor, Bodd. Tab. Pl. Enl. p. 15. no. 252 (1783); Walden, *t. c.* p. 150. no. 36, t. xxvi. f. 1 [*anteà*, p. 317].

[No. 414, ♂. Pasananca. Eyes red; feet violet (slightly).]

Both the above species of Bee-eaters were common about the camps, and seemed to associate much together and to have the same habits.

Not to be distinguished from Luzon and Negros individuals.

9. EURYSTOMUS ORIENTALIS.

Coracias orientalis, Linn. Syst. Nat. i. p. 154. no. 4 (1766); Walden, *t. c.* p. 152. no. 37 [*anteà*, p. 319].

[No. 436. ? Pasananca. Feet and bill red; tip of mandible black.]

Agrees with Ceylon examples as well as with those from localities already mentioned (*l. c.*).

P.Z.S.1877,
p. 541.

10. PELARGOPSIS GIGANTEA.

Pelargopsis gigantea, Walden, Ann. & Mag. Nat. Hist. ser. 4, xiii. p. 123 (1874) [*anteà*, p. 253].

[No. 352, ♂. Ilo-ilo. Eyes black; feet red; bill red, tipped with black. Stomach had fish.

No. 400, ♀. Malanipa. Eyes black.

No. 417, ♂. Pasananca. Eyes black; bill and legs red. Had in the stomach an eel about 6 inches long.]

The example from Malanipa (No. 400), from which island the species has not been hitherto recorded, and the one from Pasananca (No. 417) are somewhat smaller than the type specimen of *P. gigantea*, but in other respects do not differ specifically. In colouring the Malanipa bird is hardly distinguishable from the type; but the Mindanao example has the wings, scapulars, and interscapulars a much purer blue. The Panay bird (No. 352) has the same parts of a still purer blue (as opposed to greenish blue), and all the plumage, including the head, which is more or less white in the type, is creamy buff, most intense on the flanks, abdomen, and under tail-coverts.

Our acquaintance with the mutations of colouring and what they denote in many of the so-called species of this group is yet very limited; and I prefer to retain for the present the Ilo-ilo bird under the title above given.

The specimens measure as follows:—

	Wing. in.	Tail. in.	Bill from forehead. in.	Bill from gape. in.
Type, *ex* Sulu, near Borneo .	6·56	4·25	3·50	4·00
♂, *ex* Pasananca	6·00	4·00	3·25	3·56
♀, *ex* Malanipa	6·06	4·00	3·25	3·56
♂, *ex* Ilo-ilo	6·00	4·00	3·12	3·62

11. ENTOMOBIA GULARIS.

Alcedo gularis, Kuhl, Buff. & D'Auben. Fig. Av. Col. Nom. Syst. p. 4 (1820); Walden, *t. c.* p. 154. no. 44 [*anteà*, p. 320].

[No. 350, ♂.}
No. 351, ♂.} Ilo-ilo. Eyes black; legs and bill dark red. Stomach had insects.

No. 415, ♂.}
No. 416, ♀.} Pasananca. Eyes black; feet and bill red.]

Luzon, Negros, and Zebu individuals agree well with these Panay and Mindanao examples. The last island is a new locality for the species.

12. SAUROPATIS CHLORIS.

Alcedo chloris, Bodd. Tabl. Pl. Enl. p. 49 (1783); Walden, *t. c.* p. 155. no. 47 [*anteà*, p. 322].

[No. 353, ♂.}
No. 554, ♀.} Ilo-ilo. Eyes black. Stomach had insects.

No. 371, ♂.} Zebu. Eyes black.
No. 372, ♀.}
No. 387, ♂.} Camiguin.]
No. 388, ♀.}

P.Z.S. 1877, p. 542. A Zebu male (No. 371) has the pectoral and flank feathers conspicuously margined with greyish brown; and this is observed in a less degree in a female (No. 354) from Ilo-ilo. Panay and Camiguin are new localities.

13. Batrachostomus septimus, n. sp.

[No. 427, ♀. Pasananca. Eyes brown. Stomach had insects.]

Rufous phase.—Head, interscapulars, and elongated occipital crest rufous brown, most of the feathers with a pair of pale rufous spots on either web, and defined by a narrow brown transverse bar. Elongated auriculars barred alternately with brown and rufous. A patch before the eye albescent rufous. A conspicuous nuchal collar formed by a series of very broad feathers brown at the base, then an irregular subdued brown transverse narrow band, followed by a pale rufous band, then another narrow zigzag brown band, which is succeeded by another pale rufous band, bounded below by a broad transverse dark brown almost black band, which is succeeded by a still broader white band, bordered again with black; the white band is separated from the black above and below by a rusty margin. Feathers of the back, rump, and upper tail-coverts rufous, with irregular transverse brown markings, and in some with brown centres. Scapulars tawny rufous and pure rufous, irregularly marked with brown zigzags, several with a subterminal black mark and a terminal tawny rufous spot. Wing-coverts chestnut, with brown vermiculations; the greater coverts with large, pure white, ovoid terminal drops, mostly situated on the outer webs, and bounded above and on the inner margins with black. Quills brown on the inner webs, pale rufous on the outer, with obscure pale brown marks. Tertiaries pale rufous on the outer webs, much indented with the brown of the inner webs. Innermost tertiaries pale rufous on both webs, transversely marked with cloudy brown. Tips of several of the inner webs of the quills pale rufous. Rectrices pale rufous, traversed by several bars of rufous brown, each bar being bounded above and below by a brown line. Penultimate pair of rectrices with rufous spots, rather than bands. Exterior short pair with almost pure white spots on the inner web. Chin and throat dingy rufous, intersected by brown zigzag lines. A gular collar, formed of broad feathers with a broad subterminal pure white band, bounded below and above by a narrow dark brown band. Feathers of the upper breast dingy rufous freckled brown, pale tawny rufous at the base, with brown transverse lines and traces of white spots on the margins of some of the webs. Concealed lower breast- and flank-plumes mostly pure white, with dark grey markings near the base and terminated with rufous freckled with brown. Abdominal feathers pale albescent rufous, striated with brown, and some marked with pure white. Feathers of the ventral region isabelline white, with small obscure pale tawny rufous margins. Under tail-coverts isabelline, the longer with subterminal marks of brown and rusty. Under wing-coverts greyish white, banded with rufous brown. Thigh-coverts dark rufous brown. Stiff nasal plumes rufous, tipped brown. Wing 6 inches, tail 4·5, tarsus 0·68, middle toe 0·75, bill (from forehead) 1·12, width of gape 1·37. The tarsus is feathered anteriorly for about one fourth of its length; the bill is massive.

P.Z.S.1877, p. 513.

14. Eudynamis mindanensis.

Cuculus mindanensis, Linn. Syst. Nat. i. p. 169. no. 3 (1766); Walden, *t.c.* p. 162. no. 61 [*anteà*, p. 328].

[No. 392, ♂.
No. 393, ♂. Malanipa. Eyes red.]
No. 394, ♀.

Malanipa is a new locality for this species; but, from its proximity to Mindanao, the examples may be considered typical.

The two males are in full black plumage, with a green gloss. They have, however, a shorter wing than Guimaras examples, the only other Philippine examples I have been able to compare them with. The female is without a tail; and in the absence of any other Philippine individuals of that sex I can make no satisfactory comparisons.

	Wing. in.	Tail. in.	Bill from nostril. in.	Tarsus. in.	Middle toe. in.
No. 392, ♂.	7·38	7·62	0·75	1·25	1·12
No. 393, ♂.	7·38	8·00	0·75	1·25	1·12
No. 394, ♀.	6·75	. .	0·75	1·25	1·12

No. 392 has a pure white primary wing-covert.

Mindanao individuals remain a desideratum.

15. Centrococcyx viridis.

Cuculus viridis, Scop. Del. Fl. Faun. Insubr. ii. p. 89. no. 47 (1786); Walden, *t.c.* p. 163. no. 64 [*anteà*, p. 329].

[No. 355, ♀. Ilo-ilo. Eyes red. Stomach had insects.]

A young bird, with many new feathers coming in. Old feathers of the body and tail brown. Examples from Luzon, Negros, Zebu, and Guimaras (*mus. nostr.*) do not differ from this typical specimen. There is no record of a Panay example having reached Europe since Sonnerat's time.

16. Buceros mindanensis, n. sp.

[No. 407, ♂. Pasananca. Eyes yellowish grey; legs, base and knob of bill red; tips of
No. 408, ♀. upper and lower mandible white.

No. 409, ♀. Pasananca. Bill nearly uniform black, tinged with red; eyes blue. On the whole, appears a much younger bird.

The stomachs of all contained seeds and fruit, and grubs, centipedes, grasshoppers, &c. These birds make a loud sound, like a crow somewhat, and frequent the highest trees. Several times in the early morning we came upon them on the ground under the trees; and I rather think they scrape at the roots of trees for food.]

These examples belong to a representative form of *B. hydrocorax*, *ex* Luzon. They differ

P.Z.S. 1877, p. 544. from that species in having a corrugated plate on the basal part of the sides of the mandible, by the casque being narrower, by the general dimensions being less, and by the anterior three fourths of the mandible and about the anterior half of the maxilla being white, and the rufous of the thigh-coverts, of the head, nape, and throat being much darker.

♂ adult. Casque, posterior half of maxilla, rami of mandible, and posterior part of gonys blood-red. Corrugated lateral plates of mandible darker blood-red. Remainder of bill pale straw-white. Feathers surrounding the eye and clothing the base of mandible, chin, and gullet black. Head, nape, and upper part of breast, lower throat, and thigh-coverts deep rufous maroon. Upper throat tawny. Breast black. Interscapulars and wing-coverts ruddy brown. Upper tail-coverts ferruginous. Under tail-coverts and vent light dingy rust-colour. Quills black; secondaries narrowly margined externally with ferruginous, and tipped with rusty white. Rectrices ruddy ochre.

♀ adult. Like male, as is the case in *B. hydrocorax*.

♀ juv. Differs chiefly by the casque not being so fully developed anteriorly and not overhanging the true culmen, and in its culmen being dingy brown and grey-brown, with indications of red on the casque and at base of mandible. The grooved lateral plates have not appeared. The tarsus and feet in all appear to have been blood-red.

In true *B. hydrocorax* slight indications of grooves are perceptible on the walls of the base of the mandible; but they are cut in the substance of the mandible, and do not form part of an adhering plate.

	Wing.	Tail.	Tarsus.	Mid. toe.	Bill, from gape.	Casque.	
						Length.	Breadth.
	in.	in.	in.	in.	in.	in.	in.
B. hydrocorax ♂ . .	16·00	14·25	3·00	2·00	7·00	5·75	2·30
B. mindanensis ♂ . .	15·50	14·00	3·00	1·60	6·62	6·00	2·00
„ „ ♀ . .	14·25	12·50	2·75	1·75	6·25	5·75	1·87
„ „ ♀ juv. .	14·25	13·50	3·00	1·75	5·62	4·50	1·50

17. LANIUS LUCIONENSIS.

Lanius lucionensis, Linn., S. N. i. p. 135. no. 10 (1766); Walden, *t. c.* p. 171. no. 72, t. xxix. f. 1 [*anteà*, p. 336].

[No. 379, ♂. Zebu. Eyes hazel.]

18. ARTAMUS LEUCORHYNUS.

Lanius leucorhynus, Linn., Mantissa Plant. p. 524, "Imarishia" (1771); Walden, *t. c.* p. 174. no. 73 [*anteà*, p. 338].

[No. 369, ♂.}
No. 370, ♀.} Zebu. Eyes brown. Stomachs had insects.]

Not hitherto recorded from Zebu. Philippine examples of this species exhibit two slightly differing phases of dress, one in which the upper plumage is of a light bluish and cinereous

P.Z.S.1877, p. 545.

colour, the other where it is more of a smoky brown and bluish ash. This does not seem to depend on sex; for one of these examples (*ex* Zebu, No. 369) is marked ♂, while I possess a Luzon example exactly similar, which Dr. Meyer determined to be a ♀. The other Zebu example (No. 370) is marked ♀, and is in the paler bluish-grey attire.

19. LALAGE DOMINICA.

Turdus dominicus, L. S. Müller, Suppl. p. 145. no. 56 (1776); Walden, *t. c.* p. 178 [*anteà*, p. 343].

[No. 358, ♀. Ilo-ilo. Eyes brown. Stomach had insects.]

20. DICRURUS STRIATUS, n. sp.

[No. 418, ♂.
No. 419, ♂. } Pasananca. Eyes red; feet and bill black.]
No. 420, ♀.

♂, ♀. Nasal and frontal plumes black; vertex and occiput clothed with glistening green-black scale-like feathers; nape, interscapulars, back, uropygium, and under surface velvety bluish black; feathers of lower throat and of breast with glistening, bluish-black, central, narrow lines, imparting a striated appearance; outer edges of the primaries (first and second excepted), exposed surface of all the remaining quills, all the wing-coverts and wing-lining, and the exposed surface of the rectrices glistening green-black; quills above and below and under surface of the webs of the laterals, black; bill and feet black. Wing 5·37 inches, tail 4·62, tarsus 0·90, bill from forehead 1·44.

Of the same type as *D. balicassius*, with the tail but slightly forked.

21. HYPOTHYMIS AZUREA.

Muscicapa azurea, Bodd. Tab. Pl. Enl. p. 41 (1783); Walden, *t. c.* p. 182. no. 85 [*anteà*, p. 347].

[No. 406, ♂. Malanipa. Eyes hazel.]

An additional locality for this species.

22. HIRUNDO GUTTURALIS.

Hirundo gutturalis, Scop. Del. Fl. Faun. Insubr. ii. p. 96. no. 115 (1786); Walden, *t. c.* p. 184. no. 88 [*anteà*, p. 349].

[No. 362 (?). Caught on board the ship, Oct. 21, 1874, between the Moluccas and the Philippines.]

23. BRODERIPUS ACRORHYNCHUS.

Oriolus acrorhynchus, Vigors, P. Z. S. 1831, p. 97, "Manilla;" Walden, *t. c.* p. 185. no. 90 [*anteà*, p. 350].

[No. 347, ♂. Ilo-ilo. Eyes white. Stomach had insects or, rather, grubs.
No. 365, ♂.
No. 366, ♂. } Zebu. Eyes red.]
No. 367, ♀.
No. 368, ♀.

P.Z.S.1877.
p. 546.

[No. 410, ♂.
No. 411, ♀.} Pasananca. Eyes red; bill reddish.]

These examples all agree with typical. The difference of the colour of the iris in the Panay bird is curious; from that island the species has not hitherto been recorded.

24. ERYTHROPITTA ERYTHROGASTRA.

Pitta erythrogastra, Temm. Pl. Col. 212 (1823); Walden, *t. c.* p. 187. no. 94 [*anteà*, p. 352].

[No. 429, ♂. Pasananca. Eyes black; feet slate-coloured. Insects in the stomach.]

The exact origin of the original type is not recorded; but I cannot detect any important difference between this Mindanao individual and examples from Luzon.

25. IXUS GOIAVIER.

Muscicapa goiavier, Scop. Del. Fl. Faun. Insubr. ii. p. 96. no. 109 (1786); Walden, *t. c.* p. 190. no. 99 [*anteà*, p. 355].

[No. 343, ♂. Zamboanga.
No. 424, ♂.
No. 425, ♂.} Pasananca. Eyes hazel.]

New to Mindanao.

26. HYPSIPETES PHILIPPINENSIS.

Turdus philippinensis, Gm. S. N. i. p. 814. no. 40 (1788); Walden, *t. c.* p. 191. no. 102 [*anteà*, p. 356].

[No. 378, ♂. Zebu. Eyes hazel.]

27. HYPSIPETES RUFIGULARIS.

Hypsipetes rufigularis, Sharpe, Tr. L. S. ser. 2. Zool. vol. i. p. 335.

[No. 421, ♂.
No. 422, ♂.
No. 423, ♀.} Pasananca. Eyes brown or hazel.]

The female is somewhat smaller, with a shorter bill. An addition to the fauna of Mindanao.

28. ORTHOTOMUS CASTANEICEPS.

Orthotomus castaneiceps, Walden, Ann. Mag. N. H. (4) i. p. 252 [*anteà*, p. 234], "Guimaras" (1st Oct. 1872); Walden, Tr. Z. S. ix. p. 195. no. 113 [*anteà*, p. 360]; Sharpe, Trans. Linn. Soc. ser. 2. Zool. vol. i. p. 337; id. Ibis, 1877, p. 114.

The type was a male; but this Panay female does not differ.

[No. 359, ♀. Ilo-ilo. Eyes brown. Stomach had insects.]

29. CALOBATES MELANOPE.

Motacilla melanope, Pallas, Reisen Russischen Reichs, iii. p. 696. no. 16 (1776); Walden, *t. c.* p. 196. no. 115 [*anteà*, p. 360].

[No. 432, ♀. Pasananca.]

A female with greyish-brown upper plumage; tail 3·56. Recorded for the first time from Mindanao.

30. Corydalla lugubris.

P.Z.S.1877, p. 547.

Corydalla lugubris, Walden, *t. c.* p. 198. no. 117 (1875) [*anteà*, p. 362].

[No. 357, ♂. Ilo-ilo. Eyes hazel. Stomach had seeds.]

Panay is an additional locality.

This example differs from the type in having the tertiaries and most of the wing-coverts broadly margined externally with pale rufous, not albescent. The pectoral feathers are tinged with pale rufous; and the brown central streaks are much broader than in the type. The flanks are washed with pale rufous.

31. Dicæum mindanense, n. sp.

[No. 433, ♂. Pasananca.]

♂. Above—cheeks and ear-coverts fuliginous olive-green. Below greyish white, most grey on the breast; quills dark brown, narrowly margined with olive-green on outer webs; tertiaries with the olive-green margins broader; rectrices dark brown, faintly edged with olive; axillaries and under wing-coverts white; feet and bill black. Wing 1·0; tail 1·1; bill, from forehead, 0·59; tarsus 1·5. The bill is not normal, being longer than the head.

This species is a representative form of *D. hypoleucum*, ex Basilan, which is black above and larger.

32. Nectarophila juliæ, sp. nov.

[No. 402, ♂.
No. 403, ♂.
No. 404, ♀.
} Malanipa. Eyes hazel. Were quite numerous on the island, generally about the tops of the high trees.]

♂. Forehead, entire head, and nape brilliant metallic coppery green; chin, throat, and upper breast brilliant metallic amethystine; space before the eyes black; cheeks and ear-coverts brown; lesser wing-coverts, uropygium, and upper tail-coverts brilliant metallic emerald-green; breast-feathers deep yellow, with orange-coloured tips; abdomen, vent, and under tail-coverts yellowish olive-green; under wing-coverts pale yellow and white; axillaries pale yellow; back and major wing-coverts and scapulars maroon-red; quills dark brown, externally margined with yellowish ruddy brown; rectrices black; bill and feet black. The second example has no orange edging to the pectoral feathers.

♀. Dull olive-green above, a narrow line passing from the base of bill over the eye pale yellow; chin, throat, abdomen, vent, and under tail-coverts pale yellow; breast the same, tinged with grey; minor wing-coverts olive-green, some tipped and centred with ruddy brown; quills dark brown, margined with ruddy brown; greater wing-coverts and scapulars ruddy brown, mixed with olive-green; inner edges of some of the quills margined with white; axillaries and under wing-coverts pale yellow and white; cheeks pale yellow; ear-coverts olive-green; rectrices black, middle pair narrowly, the others broadly tipped with white, outer pair for nearly half their length white; bill and feet black.

P.Z.S.1877,
p. 548.

	Wing.	Tail.	Tarsus.	Bill, from gape.
♂	1·94	1·35	0·5	0·75
♀	1·87	1·25	0·5	0·62

A true *Nectarophila.*

33. Arachnechthra jugularis.

Certhia jugularis, Linn. S. N. i. p. 185. no. 7 (1766); Walden, *t. c.* p. 200. no. 123 [*anteà*, p. 364].

[No. 360, ♂. Ilo-ilo. Eyes black. Stomach had insects.
No. 389, ♂.} Camiguin.]
No. 390, ♂.}

These examples agree with those noted (*l. c.*). Not known hitherto from Camiguin.

34. Corvus philippinus.

Corvus philippinus, Bp. Compt. Rend. xxxvii. p. 830 (1853); Walden, *t. c.* p. 201. no. 125 [*anteà*, p. 5].

[No. 343, ♂. Zamboanga.
No. 356, ♂. Ilo-ilo. Eyes black. Stomach had seeds, worms, &c.
No. 382, ♀.} Camiguin. These birds have been seen at most of the places we have been at;
No. 383, ♀.} in the Philippines and on this island they were quite abundant.]

This species has not hitherto been known to inhabit the three islands above named. The four examples in the collection cannot be separated from those which inhabit Luzon, Negros, and Cujo; and, like them, their dimensions exceed those of the single type specimen of *C. brevipennis*, Schlegel, at Leyden. *C. philippinus*, however, is nothing but a slightly smaller form of *C. validus*, ex Sumatra, with a greenish rather than a bluish gloss on the under plumage. The following Table shows the principal dimensions of the species from six Philippine islands, together with those of typical examples of *C. validus.*

Corvus philippinus.

	Wing.	Tail.	Bill, from nostril.	Gonys.	Tarsus.
Luzon, ♀	11·50	8·25	1·50	1·00	2·25
Negros, ♂	12·25	8·75	1·75	1·00	2·35
do., ♀	12·13	8·67	1·67	1·00	2·35
Cujo, ♀	11·50	8·00	1·37	0·90	2·25
Camiguin, ♀	12·25	8·75	1·75	1·25	2·25
do., ♀	12·50	9·00	1·50	1·00	2·25
Ilo-ilo, ♂	11·75	8·85	1·62	1·12	2·20
Zamboanga, ♂	11·81	8·50	1·62	1·00	2·20

Corvus validus, ex Sumatra.

	Wing.	Tail.	Bill, from nostril.	Gonys.	Tarsus.
Lampong	12·80	8·75	1·75	1·00	2·37
do.	12·75	8·62	1·62	0·87	2·30

Corvus philippinus belongs to a small group of Crows differing but little from one another in tint, but separable by their dimensions, more especially that of the bills. *C. violaceus* is the smallest, then *C. enca*, *C. philippinus*, *C. validus*, and *C. validissimus*.

35. Calornis panayensis.

P.Z.S. 1877, p. 549.

Muscicapa panayensis, Scop. Del. Fl. Faun. Insubr. ii. p. 96. no. 110 (1786); Walden, *t. c.* p. 205. no. 128 [*anteà*, p. 369].

[No. 384, ♂.
No. 385, ♂. } Camiguin. Eyes orange. Stomach had seeds.]
No. 386, ♂.

These examples do not differ from Luzon, Negros, and Zebu individuals. The locality is new.

36. Munia jagori.

Dermophrys jagori, Cab. J. für O. 1872, p. 316. no. 6; Walden, *t. c.* p. 207. no. 132 [*anteà*, p. 371].

[No. 339, ♂.
No. 340, ♀. } Zamboanga.]

The two Mindanao examples do not appear to be in perfect dress. The rectrices of the female are tinged with ochre. New to Mindanao.

37. Osmotreron axillaris.

Treron axillaris, G. R. Gray; Bp. Compt. Rend. xxxix. p. 875 (1854); Walden, *t. c.* p. 211. no. 136 [*anteà*, p. 374].

[No. 346, ♀. Ilo-ilo. Eyes white; feet greenish. Stomach had fruit.]

New to Panay.

38. Phabotreron brevirostris, n. sp.

[No. 426, ♂. Pasananca. Eyes white; feet coral-red; bill black.]

♂. Forehead pale ruddy fulvous; vertex pale grey, passing over into amethystine on the occiput and nape; from the gape, passing below the eye, a black line, bordered underneath by a white line starting from below the eye and reaching to the nape; back of the neck emerald-green, becoming yellow-green lower down; some of the lowermost feathers being amethystine, then bluish green, terminated by yellow-green; others yellow-green, then amethystine, terminated with blue-green; back mixed amethystine and dull yellow-green; uropygium and upper tail-coverts dull yellow-green with scarcely any iridescence; wing-coverts the same, but tinged with amethystine; quills brown, edged with pale rufous or fulvous; tertiaries like wing-coverts, but without any iridescence; chin and throat pale ruddy fulvous like the forehead; remainder of under plumage ruddy fulvous, with an amethystine tinge on the breast and sides of neck; under tail-coverts pale French grey; under wing-coverts like abdomen, but deeper in shade; middle pair of rectrices pure amethystine, with a dark grey terminal band tinged with amethystine; remaining rectrices with a much broader terminal and pure grey band, the remaining part of each being deeply tinged with amethystine; outer pair with a broad, dark-brown subterminal band also washed with amethystine. Wing 4·75, tail 3·50, tarsus 0·75, bill from forehead 0·72.

P.Z.S. 1877, p. 550. This is a small representative form of *P. leucotis*, from which it chiefly differs by its rufo-fulvous forehead, its pure amethystine rectrices, and its short bill.

39. Myristicivora bicolor.

Columba bicolor, Scop. Del. Fl. Faun. Insubr. ii. p. 94. no. 97 (1786); Walden, *t. c.* p. 217. no. 143 [*anteà*, p. 380].

[No. 395, ♂.
No. 396, ♀.
No. 397, ♀.} Malanipa. Eyes brown. These were abundant on the island, but kept to the tops of the highest trees.]

The two sexes are alike. The locality is new.

40. Charadrius fulvus.

Charadrius fulvus, Gm. S. N. i. p. 687. no. 18 (1788); Walden, *t. c.* p. 226. no. 159 [*anteà*, p. 389].

[No. 341, ♂.
No. 342, ♀.} Zamboanga.]

For the first time recorded from Mindanao.

41. Numenius phæopus.

Scolopax phæopus, Linn. S. N. i. p. 243. no. 4 (1766); Walden, *t. c.* p. 232. no. 181 [*anteà*, p. 395].

[No. 375, ♂.
No. 376, ♀.} Zebu. Eyes hazel. Stomach with shells.
No. 401, ♂. Malanipa.]

A new locality.

42. Tringoides hypoleucus.

Tringa hypoleucos, Linn. S. N. i. p. 250. no. 14 (1766); Walden, *t. c.* p. 234. no. 183 [*anteà*, p. 396].

[No. 391, ♀. Camiguin.
No. 435, ♂. Pasananca. Eyes hazel.]

This cosmopolitan species has not been hitherto made known as an inhabitant of either Camiguin or Mindanao.

43. Totanus incanus.

Scolopax incanus, Gm. S. N. i. p. 658 (1788).

[No. 405, ♂. Malanipa.]

For the first time recorded from any part of the archipelago. Pale ashy above; forehead and superciliaries, chin and throat pure white, clouded with grey on the breast and flanks. Wing 6·25. The dimensions of the wing in this species vary exceedingly. In an example (♂) from Fiji, no. 26 (*mus. nostr.*), the wing measures 7·20. Above it is dark ashy, and the grey on the breast is much deeper in tone. The Malanipa example was shot on January 30th.

44. Gallinago stenura.

Scolopax stenura, Kuhl, MS.; *S. stenura*, Bp. Ann. St. Nat. 1829.

[No. 438, ♀. Zamboanga.]

Not hitherto recorded from any Philippine island.

45. Rhynchæa capensis.

P.Z.S.1877, p. 551.

Scolopax capensis, Linn. S. N. i. p. 246. no. 14 (1766); Walden, *t. c.* p. 235. no. 189 [*anteà*, p. 398.

[No. 437, ♂. Zamboanga. Eyes hazel.]

Known to inhabit the Philippines, but no exact locality hitherto recorded.

46. Demiegretta sacra.

Ardea sacra, Gm. S. N. i. p. 640 (1788.)

[No. 377, ♂. Zebu. Eyes orange.]

In ashy-blue plumage and in full breeding-dress.

For the first time noted as an inhabitant of a Philippine island.

47. Larus ridibundus.

Larus ridibundus, Linn. S. N. i. p. 225. no. 9 (1766); v. Martens, J. für O. 1866, p. 30.
Larus, sp., Walden, *t. c.* no. 206 [*anteà*, p. 405].

[No. 363, ♂. Manila.]

Dr. v. Martens's (*l. c.*) identification of the Manila specimens sent to Berlin by Jagor is thus confirmed.

48. Sterna bergii.

Sterna bergii, Licht. Verz. d. Doubl. Berl. Mus. p. 80 (1823).

[No. 345, ♂. Zamboanga.]

New to the Philippines.

49. Hydrochelidon hybrida.

Sterna hybrida, Pallas, Zoogr. Rosso-As. ii. p. 338. no. 395 (1831).
Hydrochelidon leucopareia, Natt.; Walden, *t. c.* p. 344. no. 207 [*anteà*, p. 40].

[No. 364, ♀. Manila.]

Ibis, 1877, p. 283.

On a Collection of Birds made by Mr. E. C. Buxton in the District of Lampong, S.E. Sumatra.

By Arthur, Marquis of Tweeddale, M.B.O.U. [From 'The Ibis,' July 1877, Plates V. & VI. *in orig.*]

The first systematic account of the Avifauna of Sumatra was written by Sir Stamford Raffles [*] at Fort Marlborough, near Bencoolen, of which Sir Stamford was Lieutenant-Governor. Bencoolen is situated on the western shore of the southern half of the island of Sumatra; and most of the birds enumerated were obtained in the vicinity of Bencoolen itself, or during short trips made into the interior of the district of that name during the years 1819 and 1820, partly by Sir Stamford assisted by Dr. Joseph Arnold, and partly by Messrs. Diard and Duvaucel. These two gentlemen (the first a pupil, the other the step-son of the great Cuvier) were French naturalists, whose services Sir Stamford had secured while on a visit to Bengal. The unfortunate Ibis, 1877, p. 284. misunderstanding that soon after their arrival in Sumatra occurred between the Lieutenant-Governor and these two Frenchmen led, in about twelve months, to a cessation of their labours and to their departure from Bencoolen; and Sir Stamford was obliged to undertake the description of the materials collected himself, or to allow the results to be published in France. Hence his papers in the 'Linnean Transactions' [†]. The number of species therein catalogued and more or less described is about 168. But some birds obtained in the Prince-of-Wales Island and Singapore are included; and a few species, such as *Psittacus ornatus* and *P. sumatranus*, appear to have been introduced into the list through oversight and on the strength of caged birds.

In 1830 Lady Raffles published a memoir [‡] of her late husband, to which was appended a catalogue, by Vigors, of the zoological specimens collected in Sumatra under the superintendence of Sir S. Raffles, and by Dr. Horsfield of those in Java. About 194 specimens from Sumatra are enumerated, that locality being stated in each instance; and some species additional to Sir Stamford's list are discriminated and described as new by Vigors. This catalogue would have been more useful had its author identified all the species on which Sir Stamford had previously bestowed new titles, and had the invalid titles been reduced to synonyms—a work, however, subsequently accomplished in the most thorough manner by Mr. F. Moore [§].

Since 1830 no attempt at a complete account of the birds of Sumatra has been published; but a good many species not contained in Vigors's list have been discovered and described, principally by the Dutch zoologists, more particularly by Temminck [||] and by Salomon Müller [¶]. Ibis, 1877, p. 285. Mr. Wallace, during a stay of about three months, collected some birds in the district of

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[*] Tr. L. S. xiii. pp. 277, 330; Appendix, pp. 339, 340 (dated June 1, 1820; read March 20, 1821). The date of the volume is 1822.

[†] The collection of birds was sent to the E.I. C. Museum in London in 1820, and of drawings in 1821.

[‡] Memoir of the Life and Public Services of Sir Stamford Raffles, by his Widow (1830); Cat. Zool. Specimens, *Aves*, pp. 648, 687.

[§] A Catalogue of the Birds in the Museum of the Hon. E.I. Company, in two vols.: vol. i. (1854), vol. ii. (1856–58).

[||] Nouveau Recueil de Planches Coloriées d'Oiseaux, in five volumes. Date of completed work 1838.

[¶] Tijdschrift voor Naturlijke Geschiedenis en Physiologie, ii. pp. 315, 354 (1835). Verhandelingen over de Natuurlijke Geschiedenis der Nederlandsche overzeesche bezittingen: Land- en Volkenkunde (1839–44); Zoologie (1839–44).

Palembang, penetrating a hundred and twenty miles inland; but no separate account of his collection has appeared.

During a period of a little over five months, commencing the 30th of May, 1876, Mr. Edmund Charles Buxton travelled in the Lampong district, situated at the south-eastern extremity of Sumatra, and there made a large collection of birds, which he has kindly placed at my disposal, and of which I now propose to give an account. He started from Telok Betang and went inland to Sockedana, a distance of about 80 miles, and obtained in all 152 species, of which two appear to be undescribed. The general character of the birds in this part of Sumatra is Malaccan. Of Mr. Buxton's collection only twelve species are not inhabitants of the Malaccan peninsula as at present known; and of these eleven are Javan species, some of them recurring in Burma and one in India. They are *Dendrotypes analis*, *Batrachostomus cornutus*, *Xantholæma rosea*, *Dicæum flammeum*, *Rubigula dispar*, *Oriolus coronatus*, *Prinia familiaris*, *Buchanga leucophæa*, *Pericrocotus xanthogaster*, *Munia leucogastroides*, *Crypsirhina varians*, *Sturnopastor contra*. One, *Batrachostomus cornutus*, is known, out of Sumatra, to occur in Borneo only.

The proportion of species, seventy-nine, which have also a Javan habitat is also large, as might be inferred would be the case from the narrowness of the straits which separate South-eastern Sumatra from the western extremity of Java. This number may eventually be shown to be still greater when the ornis of Java is better known.

Some notes were kept by Mr. Buxton; but, as they are chiefly descriptive of the plumage, I have only incorporated the few observations which relate to the soft parts or to habits. The chief value of the collection consists in its enabling us to establish positively, by critical comparison, the identity or non-identity of a large number of Sumatran species with those inhabiting Java, Borneo, and Malacca, and of enabling us to add a little to our knowledge of geographical distribution. Ibis, 1877, p. 286.

1. Microhierax fringillarius.

Falco fringillarius, Drapiez, Dict. Class. d'Hist. Nat. vi. p. 412, t. v., "des Indes" (1824).

A series of four individuals, identical with Malaccan examples. ["Sits on naked branches at top of trees."—*Buxton.*]

2. Haliastur intermedius.

Falco pondicerianus, Gm.; Raffles, *t. c.* p. 278.
Haliastur intermedius, Gurney, Ibis, 1865, p. 28.

3. Astur trivirgatus.

Falco trivirgatus, Temm. Pl. Col. 203, "Sumatra" (1824).

4. Pernis ptilorhynchus.

Falco ptilorhynchus, Temm. Pl. Col. 44, "Java, Sumatra" (1823).

An example of a Honey-Buzzard was obtained by Mr. Buxton which has the feathers of the breast, abdomen, flanks, ventral region, and the thigh-coverts white or tawny white, transversely barred with two or three brown broad bands, the terminal band being narrowly fringed with tawny white or pure white. The feathers of the fore neck have darker brown drops, which occupy the terminal part of each plume, these drops being set between a rufo-fulvous and a white ground. The under wing-coverts are banded like the breast. The upper plumage is dark brown, the terminations of the feathers being darkest. The head and crest are black, the latter measuring about two and a quarter inches. The face is grey. The throat is white, with a central and two lateral dark brown streaks. Two broad dark brown bands traverse the middle rectrices, the latter being terminal. A third narrower band near the base of the tail is of a paler shade of brown. The intervening spaces are of a dirty yellowish white, much mottled with earthy brown.

Ibis, 1877, p. 287. The plumage of the under surface very closely resembles that of *P. celebensis* in its markings; but the colouring differs in being dark brown, and the chest is not tawny rufous.

5. NINOX SCUTULATA.

Strix scutulata, Raffles, *t. c.* p. 280, "Sumatra" (1821).

Mr. Buxton obtained two adult examples of this long-wished-for species at Tarahan, S.E. Sumatra. They are absolutely identical with Malaccan individuals in mus. nostr. ["Iris yellow; bill dark slate, nearly black."—*Buxton.*]

6. RHOPODYTES ERYTHROGNATHUS.

Cuculus melanognathus, Horsf. apud Raffles, *t. c.* p. 287, "Sumatra."

Phœnicophaus erythrognathus, Hartl. Verz. Mus. Brem. p. 95, "Sumatra" (1844).

Malaccan and Bornean examples do not differ from typical specimens.

7. RHOPODYTES DIARDI.

Melias diardi, Less. Tr. d'Orn. p. 132, "Java" (1831).

Malaccan individuals do not differ from Sumatran.

8. ZANCLOSTOMUS JAVANICUS.

Phœnicophaus javanicus, Horsf. *t. c.* p. 178, "Java" (1820); Zool. Res. Java, t. 5.

Typical specimens not separable from Sumatran and Malaccan.

9. RHINORTHA CHLOROPHÆA.

Cuculus chlorophæus, Raffles, *t. c.* p. 288, ♂, "Sumatra" (1821).

Phœnicophæus caniceps, Vigors, App. Mem. Raffles, p. 671, ♀, "Sumatra" (1830).

Malaccan and Bornean examples do not differ from Sumatran.

10. SURNICULUS LUGUBRIS.

Cuculus lugubris, Horsf. *t. c.* p. 175, "Java" (1820); Zool. Res. Java, t. 58.

Identical with typical specimens.

11. CHRYSOCOCCYX XANTHORHYNCHUS.

Cuculus xanthorhynchus, Horsf. *t. c.* p. 179, "Java" (1820); Zool. Res. Java, t. 59.

Undistinguishable from typical specimens.

12. HIEROCOCCYX FUGAX. Ibis, 1877, p. 288.

Cuculus fugax, Horsf. *t. c.* p. 178, "Java" (1820).

Sumatran, Bornean, and Malaccan examples offer no points of difference.

13. CENTROPUS EURYCERCUS.

Cuculus bubulus, Horsf. apud Raffles, *t. c.* p. 286, "Sumatra."

Centropus eurycercus, A. Hay; Blyth, J. A. S. B. 1845, p. 551, "Malacca."

Sumatran and Bornean individuals agree with typical specimens. As yet I have not been able to compare them with the Javan form, which is, according to Blyth (*l. c.*), a smaller species.

14. THRIPONAX JAVENSIS.

Picus javensis, Horsf. *t. c.* p. 172, "Java" (1820).

The examples obtained by Mr. Buxton in no respect differ from Malaccan, with which the type is said to agree.

15. TIGA RAFFLESI.

Picus rafflesii, Vigors, App. Mem. Raffles, p. 669, "Sumatra" (1830).

Bornean and Malaccan individuals are inseparable.

16. TIGA JAVANENSIS.

Picus javanensis, Ljungh, Act. Stockh. xviii. p. 134, "Java" (1797); Walden, Ibis, 1871, p. 164.

Picus tiga, Horsf. *t. c.* p. 177, "Java" (1820).

"*Tiga rufa*," Raffles, *t. c.* p. 290, "Sumatra" (1821).

Sumatran, Malaccan, and Javan individuals do not specifically differ. Of somewhat smaller dimensions than the race which inhabits the Burmese countries.

17. CALLOLOPHUS MENTALIS.

Picus mentalis, Temm. Pl. Col. 384, "Java" (1826).

Sumatran and Malaccan examples do not vary.

18. CALLOLOPHUS PUNICEUS.

Picus puniceus, Horsf. *t. c.* p. 176, "Java" (1821); Raffles, *t. c.* p. 289, "Sumatra" (1821).

Malaccan, Bornean, and Sumatran individuals do not differ.

19. CALLOLOPHUS MALACCENSIS.

Picus malaccensis, Lath. Ind. Orn. i. p. 241, "Malacca" (1790).

Count Salvadori has remarked (*t. c.* p. 51) that this species and *C. miniatus* of Java are distinct, and that I had erred (Ibis, 1871, p. 165*) when, following Malherbe and others, I Ibis, 1877, p. 289.

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* [*Anteà*, p. 103.—ED.]

regarded them as belonging to the same species. Dr. Sclater appears to be the first author who distinguished the Javan on account of its uniform red crest and back from the Bornean and Malaccan form (P. Z. S. 1863, p. 211); but I may observe that I have an example collected in East Java by Mr. Wallace, and marked a male, which has the more elongated crest-plumes red, mingled quite as much with yellow as is to be found in true *C. malaccensis*. The feathers also of the interscapular region exhibit green mixed with red, and are matched by an example from Malacca collected by Mr. Maingay. Mr. Buxton has two Sumatran examples in his collection: one has the dorsal feathers green, largely dashed, centred, and tinged with red; the other has these feathers dull olive-green washed with red.

20. MICROPTERNUS BADIUS.

Picus badius, Raffles, *t. c.* p. 289, "Sumatra" (1821).

I provisionally retain the above title for the Sumatran *Micropternus* in preference to that of *brachyurus*, Vieill. (N. Dict. xxvi. p. 103, 1818), because the type of Vieillot's species is said to have come from Java, and we cannot rely on Malherbe's statement that the two are specifically identical. Between Malaccan and typical examples I am unable to detect any good distinction. Many Malaccan specimens have the crown very pale; but this is also to be observed in one of Mr. Buxton's birds. The Bornean (south-east and north-east) species, *M. badiosus*, appears to differ in having the terminal portions of the rectrices uniform unbanded brown and a somewhat longer bill. Count Salvadori (*t. c.* p. 59) mentions as a distinctive character the eye of the male being completely surrounded by red points or dots. In a N.E. Bornean male collected by Mr. Everett, and in another by Mr. Lowe (mus. nostr.), this is the case; and I have not observed the same character in the multitude of Malaccan birds I have examined, nor is it to be found in Mr. Buxton's Sumatran males; but it is to be observed in examples from Malabar, and it may merely indicate the full breeding male plumage of all the members of the genus. Ibis, 1877, p. 290.

21. MEIGLYPTES TRISTIS.

Picus tristis, Horsf. *t. c.* p. 177, "Java" (1820); Raffles, *t. c.* p. 290, "Sumatra" (1821).

Not distinguishable from Bornean and Malaccan individuals. The length of wing is very variable in adults of this species; and in one of Mr. Buxton's specimens, an adult male, the bill is remarkably short.

22. MEIGLYPTES TUKKI.

Picus tukki, Lesson, Rev. Zool. 1839, p. 167, "Sumatra."

Malaccan examples (*Hemicercus brunneus*, Eyton, P. Z. S. 1839, p. 106) do not differ.

23. DENDROTYPES ANALIS.

Picus analis, Horsf. *t. c.* p. 177, "Java" (1820).

Bill longer, otherwise identical with typical examples. This Woodpecker also inhabits the island of Madura.

24. Yungipicus fusco-albidus.

Picus variegatus, Latham, apud Wagler, Syst. Av. *Picus*, no. 27 (1827), nec Lath.

Yungipicus fusco-albidus, Salvadori, *t. c.* p. 42 (1874).

Picus sondaicus, Wallace, Gray, Hand-l. no. 8589 (1870); Salvadori, *t. c.* p. 43, note, "Java."

Mr. Buxton's Sumatran series of this small Woodpecker consists of examples undistinguishable from Malaccan and Javan individuals. Wagler described the species from Javan examples only (*conf.* Cab. Mus. Hein. iv. ii. p. 54, note); but he adopted for it Latham's (Gmelin's) title of *Picus variegatus*, bestowed on a South-American Woodpecker, and Count Salvadori has therefore superseded the title by a new one (*l. c.*). The title *P. sondaicus*, Wallace, is founded solely on the Javan bird, and must fall, no description having accompanied the title when first published. Whatever *Picus moluccensis*, Gm. (ex Pl. Enl. 748. f. 2), may be, it cannot apply to *Y. fusco-albidus*; for the bird figured by D'Aubenton is without any mandibular stripes. Ibis, 1877, p. 291.

25. Hemicercus sordidus.

Dendrocopus sordidus, Eyton, Ann. & Mag. N. Hist. xvi. p. 229, "Malacca" (1845).

Hemicercus brookeanus, Salvadori, Atti R. Ac. Sc. Tor. iii. p. 525, "Borneo" (1868); Ucc. Born. p. 44.

Hemicercus concretus (Reinw.), apud Salvadori, ex Borneo, Ucc. Born. p. 47, nec Reinw.

Mr. Buxton's series consists of three males and two females. These last are undistinguishable from Javan (*P. concretus* ♀) and Malaccan examples in the plumage of the female. One male is adult, and is identical with adult males from Malacca—that is, with the crest on the crown of the head deep crimson, the postoccipital crest-plumes being dark greyish olive. A second example, that of a young male, has the whole of the crown and *all* the crest-plumes dingy reddish buff or yellowish red. The third is intermediate, the coronal plumes being almost all pure crimson, and the postoccipital plumes passing over from the reddish tawny colour to olive-grey. I possess Malaccan skins which match these three Sumatran males. In all the under surface is dark olive-grey. The coronal plumes in other Malaccan examples of young males are ruddy buff, while the elongated occipital crest-feathers are all flame-red, with a yellowish-buff shaft-line and tip to each plume. In another Malaccan male the postoccipital plumes are dark greyish olive, while the coronal feathers are mixed bright crimson and pale ruddy buff.

The adult male of *H. concretus* (Reinw.), ex Java (Pl. Col. 90. f. 1), differs from *H. sordidus* by having the *entire* crest crimson, although not of so dark a shade as in *H. sordidus*. The occurrence of this species beyond Java rests on no good authority. It is figured by Malherbe (Picidæ, t. 41. f. 5) under the title of *Micropicus hartlaubi*. The curious fact that in *H. sordidus* ♂, when immature, the *whole* crest is buffy flame-coloured (anyhow the postoccipital crest)—and that as the bird reaches maturity the flame-coloured postoccipital crest becomes olive-grey, not having been recognized, has led to some confusion. Ibis, 1877, p. 292.

26. Sasia abnormis.

Picumnus abnormis, Temm. Pl. Col. 371. f. 3, "Java" (1825).

Malaccan and Bornean examples in no respect differ from the Sumatran individuals in Mr. Buxton's collection.

27. LORICULUS GALGULUS.

Psittacus galgulus, Linn. S. N. i. p. 150 (1766); Raffles, *t. c.* p. 281, "In the interior of Bencoolen."

28. PSITTINUS INCERTUS.

Psittacus incertus, Shaw, Nat. Misc.; O. Finsch, Papag. ii. p. 612.
Psittacus malaccensis, Lath., Raffles, *t. c.* p. 281.

The variation in plumage this species undergoes remains still, as when Dr. O. Finsch wrote, not fully explained. Unfortunately the sexes of the four individuals brought home by Mr. Buxton were not determined by dissection.

29. ANORRHINUS GALERITUS.

Buceros galeritus, Temm. Pl. Col. 520, "Sumatra" (1831).

["Naked skin surrounding eyes and throat white, with a blue tint. Very common in flights of about eight or ten."—*Buxton.*] Dr. Cantor describes the same parts of the Malaccan bird as being black (Horsf. & Moore, *t. c.* p. 594).

30. RHYTIDOCEROS UNDULATUS.

Le Calao à casque festonné, Le Vaill. Ois. Rares, i. p. 41, t. 20, 21, ♀, "Batavia" (1801).
Buceros undulatus, Shaw, Gen. Zool. viii. p. 26 (1811), ex Le Vaill. t. 20, 21; Vigors, App. Mem. Raffles, p. 666 (1830).
Le Calao javan, Le Vaill. *t. c.* p. 45, t. 22, ♂ juv., "Batavia."
Buceros javanicus, Shaw, *t. c.* p. 28 (1811), ex Le Vaill. t. 22.
Le Calao javan ou Calao annuaire, Le Vaill. Ois. d'Afr. t. 239, ♂ adult (1806).
Ibis, 1877, p. 293. *Buceros niger*, Vieillot, N. Dict. iv. p. 592 (1816), ex Le Vaill. t. 20, 21.
Buceros annulatus, Dumont, Dict. Sc. Nat. vi. p. 210 (1817), ex Le Vaill. t. 20, 21.
Buceros pusaran, Raffles, *t. c.* p. 293, ♂ juv., "Sumatra" (1821).
Buceros annulatus, Drapiez, Dict. Class. d'Hist. Nat. iii. p. 32 (1828), ex Levaill. t. 20, 21.
Buceros ruficollis, Vieill. apud Blyth, J. A. S. B. xii. p. 176 (1843), nec Vieill.
Buceros pucoran, Raffles, Blyth, J. A. S. B. 1843, p. 990.
Buceros plicatus, Lath. apud Sundev. Om Le Vaill. Ois. d'Afr. p. 50 (1857), nec Lath.
Calao plicatus (Lath.), Bp. Consp. i. p. 90 (1854), nec Lath.
Rhyticeros plicatus (Lath.), Horsf. & Moore, Cat. E.I. C. Mus. ii. p. 598 (1856–58), nec Lath.; Moore, P. Z. S. 1859, p. 451.
Rhytidoceros obscurus (Gm.), Salvad. Ucc. Born. p. 85, "Sarawak" (1874), nec Gm.

An adult, seemingly an aged male, is in Mr. Buxton's Lampong collection. That gentleman, in his notes, describes the naked gular skin as being yellow, "with a black bar and greenish tinge." This bar is evident on the dried skin. Dr. Cantor has described the gular pouch of the Malaccan male as being "rich gamboge-yellow, with two transverse black bars" (Horsf. & Moore, *l. c.**), that of the female as dirty azure, with two transverse black bars," of the young male as "yellow, with the transverse black bars indistinct." In a Malaccan example of an adult male I find traces of only one black bar. Schlegel (Mus. Pays-Bas, *Buceros*, p. 2) states that the Javan bird has an oblique blue bar across the throat of the male, but does not mention any bar on that of the female.

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* In his later account (*l. c.*) Mr. Moore omits all mention of the two transverse black bars.

The title of this Hornbill has been by most ornithologists, commencing with Latham, confounded with that of the strictly and only Papuan member of this family, *Buceros ruficollis*, Vieill. The first notice of the Papuan species occurs in Bontius; and his account was transcribed by Ray in his English translation (1678) of Willughby's 'Ornithology.' By Ray it is called "Bontius his Indian Crow," and is said to come from the "Molucca Islands, especially Banda." An outline drawing of the bill is given (t. lxxviii.), which accurately resembles the bill of an adult example of the Papuan *B. ruficollis.* It may here be mentioned, parenthetically, that while it is not always easy to recognize a species, or to differentiate one from another nearly allied species, through the means of a complete drawing of a bird made at the early date of Ray's edition, still the art of outline-drawing was as perfect then as it is now, and that such delineations are quite reliable. The bold broad folds on the posterior part of the culmen of the bill which characterize the Papuan Hornbill, are plainly and accurately rendered in Ray's plate; and the total absence of lateral grooves and ridges on the basal walls of the two mandibles enables us to determine without doubt that the bill represented belonged to the Papuan, and not to its near ally, the Malayan species.

Ibis, 1877, p. 294.

On Ray's* outline drawing of the bill Latham founded his *Wreathed Hornbill* (Synop. i. p. 358, 1781). Gmelin gave to this species the title of *Buceros obscurus* (S. N. i. p. 362, 1788). In his first supplement to his 'Synopsis,' Latham (p. 70, 1787†) added a reference to a passage in Dampier's 'Voyage' (iii. pt. 2, p. 165‡, t. 3), and identified the bird, there described as having been killed in Ceram and on New Guinea, with his "Wreathed Hornbill." In the 'Index Ornithologicus' (i. p. 146, 1790), Latham gave his "Wreathed Hornbill" a Latin title, and called it *Buceros plicatus.* It seems therefore that the Gmelinian title of *obscurus* and Latham's title of *plicatus* apply to the Papuan Hornbill, and not to the Malayan. In the 'General History' (ii. p. 323, 1822) Latham mixed up his original species with Le Vaillant's *Callao javan* (*l. c.*) and Shaw's species founded on Le Vaillant's plate (Ois. d'Afrique); but the plate (xxxiv.) given by Latham plainly refers to the Papuan species.

Ibis, 1877, p. 295.

In D'Entrecasteaux's 'Voyage' (ix. p. 304, t. xi.), a Hornbill obtained in the Papuan island of Waigiou is figured, on which the title of *Buceros ruficollis*, Vieillot (N. Dict. iv. p. 600, 1816), was founded (Temm. Pl. Col. 557). But J. R. Forster had already (Zool. Indica, p. 40, 1781) bestowed the title of *B. plicatus* on Dampier's Ceram Hornbill. Vieillot's title, usually adopted for the Papuan species, therefore ought to fall; and that of *plicatus*, Forster, having priority, should supersede Gmelin's title of *obscurus*, and Latham's title *plicatus*, and stand for the Papuan Hornbill. Gmelin's title *obscurus* and its synonym *plicatus*, Lath., being thus restored to their original owner (i. e. *B. plicatus*, Forster), the oldest available title for the Malayan bird becomes *undulatus*, Shaw.

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* I have not been able to consult an original copy of Willughby's work. It may be that in it Willughby gives an account of the Hornbill described by Bontius.

† Can any learned bibliographer explain how Latham, in his first Supplement (1787), was able to quote Gmelin's edition of the 'Systema,' published in 1788?

‡ The correct number of the page is 231, and Latham, as well as J. R. Forster before him, transcribed the misprint on Dampier's plate no. 3.

A form very closely allied to the Malayan *B. undulatus* occurs in Tonghoo, which Mr. Blyth separated (J. A. S. B. 1843, p. 177) under the title of *subruficollis*, the synonymy of the Papuan bird and of the Malayan being at that time exceedingly involved, and the species themselves not well known. Mr. Blyth subsequently twice identified his *B. subruficollis* with Malayan *B. plicatus* (*op. cit.* xii. p. 991, xvi. p. 998), but eventually returned to his original view, and retained *B. subruficollis* as distinct (Cat. Calc. Mus. p. 320, no. 191).

B. subruficollis is only to be distinguished from *B. undulatus* by wanting, in the two sexes, the lateral ridges on the base of both mandibles, and by the bill not being so deep and massive. It does not possess a black transverse bar on the naked gular skin of either sex*, but that part in the male is yellow, and in the female blue, as in *B. undulatus*. It is remarkable that two such closely allied forms should coexist in the same area; and yet there seems no doubt that both inhabit Tenasserim; and an example of a young male obtained at Tonghoo by Mr. W. Ramsay belongs to *B. undulatus*, while the remainder of a very large series from that district consist of nothing but *B. subruficollis*. There is little or no difference in the general dimensions, although Mr. Blyth considered that the body of *B. undulatus* was heavier than that of its ally. Ibis, 1877. p. 296.

B. narcondami, Hume (Str. F. i. p. 441), as described, seems to be another closely allied form. No mention is made of lateral ridges on the mandibles.

31. CARCINEUTES PULCHELLUS.

Dacelo pulchella, Horsf. *t. c.* p. 175, "Java" (1820).
Carcineutes pulchellus (Horsf.); Sharpe, Mon. Alced. t. 96.

This bird is not separable from Malaccan and Peguan examples.

32. HALCYON PILEATA.

Alcedo pileata, Bodd. Tab. Pl. Enl. p. 41 (1783).
Alcedo atricapilla, Gm.; Raffles, *t. c.* p. 293, "Sumatra."

33. SAUROPATIS CHLORIS.

Alcedo chloris, Bodd. Tabl. Pl. Enl. p. 49 (1783).
Alcedo chlorocephala, Gm., Raffles, *t. c.* p. 293, "Sumatra."

34. PELARGOPSIS FRASERI, Sharpe, P. Z. S. 1870, p. 65, "Java, Sumatra, Malacca;" Mon. Alced. t. 33, "Sumatra."

Alcedo leucocephalus, Gm., Raffles, *t. c.* p. 293, "Sumatra."

The four examples obtained by Mr. Buxton most closely resemble the Bornean form referred by Mr. Sharpe in his monograph to *P. leucocephala*, the cap, however, being more pronounced.

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* Mr. Wardlaw Ramsay, who paid special attention to this Hornbill when in Burma, is quite positive on this point.

They differ from the great majority of Malaccan individuals with which I have made a comparison in wanting the very dark distinct brown cap of that peninsular form. But, in truth, this group of Kingfishers requires further study; for the variations in colouring of the cap, on which Mr. Sharpe partly relies (P. Z. S. 1870, p. 62), do not always seem to offer, as I once believed, stable characters when a large series of individuals from different, or even similar, localities are examined.

35. ALCEDO EURYZONA. Ibis, 1877, p. 297.

Alcedo cyanocephala, Shaw, Raffles, *t. c.* p. 293, "Sumatra," nec Shaw.

Alcedo euryzona, Temm. Pl. Col. livr. 83, "Java" (1830); Sharpe, Mon. Alced. t. 8; Schlegel, Vog. Neder. Ind. *Martins pêcheurs*, p. 45, t. 1. f. 1, 2.

A single example of this rare Kingfisher was obtained by Mr. Buxton. The extreme rarity of the species has prevented me comparing it with typical and Malaccan specimens.

36. ALCEDO MENINTING.

Alcedo meninting, Horsf. *t. c.* p. 172, "Java" (1820).

Alcedo asiatica, Sw. Zool. Ill. (1) t. 50 (1821).

Alcedo ispida, var. *bengalensis*, apud Raffles, *t. c.* p. 293, "Sumatra."

Examples of this well-marked species from Java, Borneo, and Malacca agree with those from the Lampong district.

37. ALCEDO BENGALENSIS.

Alcedo bengalensis, Gm. S. N. i. p. 450 (1788).

38. CEYX RUFIDORSA.

Alcedo tridactyla, Linn., Raffles, *t. c.* p. 293, "Sumatra."

Ceyx rufidorsa, Strickl. P. Z. S. 1846, p. 99, "Malacca;" Sharpe, Mon. Alced. t. 41.

Ceyx innominata, Salvadori, Atti R. Ac. Sc. Tor. iv. p. 465 (1869).

Identical with Malaccan and Bornean examples.

39. MEROPS SUMATRANUS, Raffles, *t. c.* p. 294, "Sumatra" (1821).

Merops bicolor, Bodd., Salvadori, Ucc. Borneo, p. 90, nec Bodd.; Sharpe, Ibis, 1876, p. 33, et 1877, p. 5; conf. Walden, Tr. Z. S. ix. p. 150, t. 26. [*Anteà*, p. 317.]

Sumatran, Malaccan, and Bornean examples do not differ. Are not examples with the chestnut plumage, washed with green, immature birds, of both sexes, in transition from the dark green of the young to the full dress of the adult, rather than representatives of the adult female form only, as stated by Mr. Sharpe (*l. c.*)?

40. NYCTIORNIS AMICTA. Ibis, 1877, p. 298.

Merops amicta, Temm. Pl. Col. 310, "Sumatra" (1824).

Bornean and Malaccan examples in no respect differ. Count Salvadori (*t. c.* p. 91) refers

N. malaccensis, Cab., to the female, thus assuming that the female wants the crimson pectoral and pink frontal plumes. I rather incline to the belief that the adult birds of both sexes are alike, and that the uniform green birds belong to a younger stage of plumage. One of the examples obtained by Mr. Buxton is in plain green dress (*N. malaccensis*), but has one small frontal plume pink.

41. HARPACTES KASUMBA.

Trogon kasumba, Raffles, *t. c.* p. 282 (1821), *partim*; Gould, Mon. Trog. t. 10.

Malaccan and Bornean examples do not differ. I retain the title now usually adopted, although Sir S. Raffles confounded two species in his description.

42. HARPACTES DUVAUCELI.

Trogon duvaucelii, Temm. Pl. Col. 291 (1824), "Sumatra;" Gould, Mon. Trog. t. 12.
Trogon kasumba, Raffles, *l. c.*, *partim*.

Identical with examples from Malacca, where it occurs along with *H. rutilus* (conf. Walden, Ibis, 1871, p. 161*). Sir S. Raffles described (*l. c.*) this species as being the young of *H. kasumba*.

43. BATRACHOSTOMUS CORNUTUS.

Podargus cornutus, Temm. Pl. Col. 159, "Bencoolen" (26 July, 1823).

The example obtained by Mr. Buxton is in full rufous plumage. It agrees with Bornean individuals.

44. LYNCORNIS TEMMINCKI.

Lyncornis temmincki, Gould, Icones Avium, t. 6, "Borneo" (1838).

Identical with Malaccan and typical examples.

45. MACROPTERYX COMATUS.

Cypselus comatus, Temm. Pl. Col. 268, "Sumatra" (1824).

Malaccan examples do not differ.

Ibis, 1877, p. 299.

46. MACROPTERYX LONGIPENNIS.

Hirundo longipennis, Rafin. Bull. Sc. Soc. Philom. iii. an. ii. p. 158, "Java" (1804).
Hirundo klecho, Horsf. *t. c.* p. 143, "Java" (1820).

Identical with typical examples.

47. MEGALÆMA MYSTACOPHANES.

Bucco mystacophanos, Temm. Pl. Col. 315, "Sumatra" (1824); Marshall, Mon. Capit. t. 19; Salvadori, *t. c.* p. 34, t. 1.
Megalaima humei, Marshall, Ibis, 1870, p. 536, "Borneo;" Mon. Capit. t. 21.

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* [*Antcà*, p. 101.—ED.]

Malaccan examples are identical. Among the large series collected by Mr. Buxton are examples in the transition plumage on which Mr. Marshall founded *M. humei.*

48. MEGALÆMA CHRYSOPOGON.

Bucco chrysopogon, Temm. Pl. Col. 285, "Sumatra" (1824); Marshall, Mon. Capit. t. 18.

Agrees with Malaccan specimens.

49. MEGALÆMA VERSICOLOR.

Bucco versicolor, Raffles, *t. c.* p. 284, "Sumatra" (1821); Marshall, Mon. Capit. t. 22.

Bornean and Malaccan individuals belong to the typical species.

50. XANTHOLÆMA ROSEA.

Bucco roseus, Dumont, Dict. Sc. Nat. iv. p. 52 (1806); Marshall, Mon. Capit. t. 43.

The two examples collected by Mr. Buxton are identical with Javan and Negros individuals. Hitherto not recorded from Sumatra.

51. XANTHOLÆMA HÆMACEPHALA.

Bucco hæmacephalus, L. S. Müller, Suppl. p. 88 (1776); Marshall, Mon. Capit. t. 42.

Bucco philippensis, Linn., Raffles, *t. c.* p. 283, "Sumatra."

52. XANTHOLÆMA DUVAUCELI.

Bucco duvaucelii, Less. Tr. d'Orn. 164, "Sumatra" (1831); Marshall, Mon. Capit. t. 33. f. 1, 2.

Bucco australis, Horsf., Raffles, *t. c.* p. 285, "Sumatra," nec Horsf.

Sumatran, N.E. Bornean, and Malaccan examples exhibit no difference. Ibis, 1877, p. 300.

53. ARACHNOTHERA LONGIROSTRA.

Certhia longirostra, Lath. Ind. Orn. i. p. 299, "Bengal" (1790).

Arachnothera affinis, Blyth, J. A. S. B. 1846, p. 43, "Eastern coast, Bay of Bengal, from Arracan to Malacca, Mysore district."

Arachnothera pusilla, Blyth, Cat. Calc. Mus. App. p. 328. no. 1348 (1849).

Sumatran examples are identical, both in size and plumage, with Javan. The only difference I am able to detect between Javan individuals and those from Malabar, Assam, and countries south to Malacca, including British Burma, and also those from Borneo, is one of dimensions, these last being smaller and having shorter and perhaps slenderer bills. But I possess Javan examples, in perfect plumage, as small as any from the other localities named—that is, with a difference of three, and even nearly four, eighths in the length of the wing of the largest and smallest Javan species. These differences in size may be characteristic of sex; but a fully plumaged Bornean male (Busan), sex ascertained by Mr. Everett, has the short wing of my smallest Javan examples. A Tonghoo male, with bright orange pectoral tufts, has a shorter wing and bill than a Javan male in like breeding-plumage. There is not, therefore, sufficient ground for separating specifically any one or more races of this spider-hunter; and if there were, the Javan and Sumatran race would require the new title, and not the race named *affinis* (subsequently *pusilla*) by Blyth; for it supplied Latham with the type of his *C. longirostra*.

54. ARACHNOTHERA FLAVIGASTRA.

Anthreptes flavigaster, Eyton, P. Z. S. 1839, p. 105, "Malacca."
Arachnothera eytonii, Salvadori, *t. c.* p. 182 (1874).

Ibis, 1877, p. 301. Identical with typical examples. Count Salvadori has bestowed a fresh title, on account of the hybrid construction of the name given by Eyton.

55. ARACHNOTHERA CHRYSOGENYS.

Nectarinia chrysogenys, Temm. Pl. Col. 388. f. 1, "Java" (1826).
Certhia longirostra, Lath., Raffles, *t. c.* p. 299, "Sumatra," nec Lath.

Sumatran, Bornean (N.E.), and Malaccan examples do not differ.

56. ARACHNOTHERA TEMMINCKI.

Arachnothera temmincki, Moore, Cat. E.I. C. Mus. ii. p. 728, "Malacca?" (1856–58).

One Lampong example, obtained by Mr. Buxton, is inseparable from Malaccan individuals.

57. ARACHNOPHILA SIMPLEX.

Nectarinia simplex, S. Müller, Verh. Nat. Gesch. Ned. Overz. Bez., Land- en Volkenk. p. 172, note, "Sumatra, Borneo" (1843); *op. cit.* Zool. Aves, p. 62, t. 8. f. 4 (1846); Walden, Ibis, 1870, p. 31. [*Anteà*, p. 79.]
Arachnophila simplex (S. Müller); Salvadori, *t. c.* p. 172.

A single example of this rare Sun-bird (♂) is in the collection. Reichenbach's generic title, *Arachnoraphis*, cannot be used, being partly founded on a Malaccan *Arachnothera* (*A. flavigastra*, Eyton) and partly on the New-Ireland *Nectarinia flavigastra*, Gould (=*A. frenata*). *A. simplex*, Müll. & Schlegel, ex Lombock, Gray's Hand-l. no. 1370, is a true *Arachnothera* from Lombock, discovered by Mr. Wallace, and has nothing to do with the species it is there referred to.

58. ÆTHOPYGA SIPARAJA.

Certhia siparaja, Raffles, *t. c.* p. 299, "Sumatra" (1821); Walden, Ibis, 1870, p. 33. [*Anteà*, p. 81.]
Æthopyga eupogon, Cab. Mus. Hein. i. p. 103, note, "Malacca, Borneo" (1850–51).

The examples from S.E. Sumatra are identical with Malaccan, Penang, and Bornean specimens. Cabanis's title of *eupogon* must therefore fall.

Ibis, 1877, p. 302.

59. ARACHNECHTHRA PECTORALIS.

Nectarinia pectoralis, Horsf. *t. c.* p. 167, "Java" (1820).

Undistinguishable from Javan examples.

60. ANTHREPTES MALACCENSIS.

Certhia malaccensis, Scopoli, Del. Fl. et Faun. Insubr. ii. p. 90 (1786).
Nectarinia javanica, Horsf., Raffles, *t. c.* p. 299, "Sumatra."

Apparently very numerous. Does not differ from typical examples.

61. NECTAROPHILA HASSELTI.

Nectarinia hasseltii, Temm. Pl. Col. 376. f. 3, "Java" (1825).
Certhia brasiliana auct.
Certhia sperata, Linn., Raffles, *t. c.* p. 298, "Sumatra," nec Linn.
Cinnyris ruber, Lesson, Tr. d'Orn. p. 296, "Sumatra, *fide* Pucheran" (1831).

Many examples, which do not differ from Malaccan and Bornean.

62. CHALCOSTETHA INSIGNIS.

Nectarinia insignis, Jardine, Nat. Lib. xxxvi. p. 274 (1842), ex Temm. Pl. Col. 138. f. 3, "Java."

Identical with Malaccan individuals, which Count Salvadori informs us (*t. c.* p. 178) are not to be distinguished from Bornean (Sarawak). Sal. Müller has identified Sumatran with Javan typical examples.

63. DICÆUM FLAMMEUM.

Motacilla flammea, Sparrm. Mus. Carls. fasc. iv. t. 98, "Java" (1789).

Identical with Javan examples.

64. DICÆUM OLIVACEUM.

Dicæum olivaceum, Walden, Ann. & M. N. H. (ser. 4) xv. p. 101*, Tonghoo hills (1875).

A single skin of a *Dicæum* was obtained by Mr. Buxton which is identical with the type specimen of *D. olivaceum*.

65. DICÆUM TRIGONOSTIGMA.

Ibis, 1877, p. 303.

Certhia trigonostigma, Scopoli, Del. Fl. et Faun. Insubr. ii. p. 91 (1786), ex Sonnerat, "Malacca."
Dicæum croceoventre, Vigors, Mem. Raffles, p. 673, "Sumatra" (1830).

The Lampong individuals in no respect differ from Malaccan.

66. PRIONOCHILUS PERCUSSUS.

Pardalotus percussus, Temm. Pl. Col. 394. f. 2, "Java" (1826).

Identical with Malaccan specimens. I have not been able to compare it with typical examples.

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* [*Anteà*, p. 414.—ED.]

67. CHALCOPARIA PHŒNICOTIS.

Motacilla singalensis, Gm. S. N. i. p. 964 (1788).

Nectarinia phœnicotis, Temm, Pl. Col. 108. f. 1, 388. f. 2, "Java, Sumatra" (1824).

A single specimen in immature plumage belongs to this species. Now that the knowledge of the geographical range of most species of birds has become so much more defined and accurate, the time appears to have arrived when inappropriate and misleading geographical titles may be with safety suppressed. This bird is certainly not found in Ceylon; nor does it occur on the Asiatic continent to the westward of the Brahmaputra. I have therefore adopted Temminck's title, which is next in priority. It is true that Count Salvadori (Ucc. Born. p. 180) makes *Certhia rectirostris*, Shaw, apply to this species; but that title, founded on plate lxxv. of Vieillot's 'Oiseaux Dorés,' belongs to an African bird, *Cinnyris elegans*, Vieillot (N. Dict. d'Hist. Nat. xxxi. p. 506, 1819), which was also figured by Vieillot under the same title some years later (Galerie des Ois. i. p. 292, t. clxxviii.).

68. ZOSTEROPS LATERALIS.

Zosterops lateralis, Temm. Mus. Lugd.; Hartlaub, J. für O. 1865, p. 15, "Java and Sumatra."

Very near to continental *Z. palpebrosus*, but of a more saturated green above, and with a longitudinal streak of bright yellow on the abdomen; the tail dark brown. It is also the form found at Malacca.

Ibis, 1877, p. 304.

69. PARUS ATRICEPS.

Parus atriceps, Horsf. *t. c.* p. 160, "Java" (1820).

Le Mésange grise à joue blanche, Le Vaillant, Ois. d'Afr. iii. p. 171, t. 139 *. fig. superior, "Batavia."

Parus cinereus, Vieill. Tabl. Encyl. Méth. ii. p. 506 (1823), ex Le Vaillant.

Identical with typical examples.

70. ÆGITHINA SCAPULARIS.

Iora scapularis, Horsf. *t. c.* p. 152, "Java" (1820); Zool. Res. Java, t.

Turdus scapularis, Horsf., Raffles, *t. c.* p. 311, "Sumatra."

A young male, procured by Mr. Buxton, is not separable from Javan examples of the female, except that all the new rectrices are black. Javan and Sumatran females are identical.

71. ÆGITHINA VIRIDISSIMA. (Plate V. fig. 1 (♂), 2 (♀), *in orig.*)

Iora viridissima, Bp. Consp. i. p. 397, "Sumatra, Borneo" (1850).

Two full-plumaged males and one female were obtained by Mr. Buxton; and I am thus enabled to give a description of the female of this somewhat rare species. The upper plumage of the female is like that of the male, only not so dark green. In *Æ. scapularis* ♀, ex Java, and in *Æ. zeylonica* ♀ and *typhia* ♀, the dorsal plumage is yellow-green. The colouring of the rectrices in *Æ. viridissima* ♀ is likewise darker green than in *Æ. scapularis*. Underneath the plumage has a yellow tint, but not so bright and pure as in *Æ. scapularis* and its allies. From the plumage of the head being dark green, the yellow orbits contrast more conspicuously in *Æ. viridissima* ♀ than in the females of the other species. The edgings to all the quills are greenish yellow, and not pure yellow or whitish yellow.

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* Le Vaillant, in error, misnumbered the figures on this plate.

Bornean and Malaccan examples do not differ from the Sumatran.

72. Phyllornis viridis. Ibis, 1877, p. 305.

Turdus viridis, Horsf. *t. c.* p. 148, "Java" (1820), nec Gm.

Meliphaga javensis, Horsf. *t. c.* p. 152.

Turdus cochinchinensis, Gm., var., Raffles, *t. c.* p. 309, "Sumatra."

Chloropsis zosterops, Vigors, App. Mem. Raffles, p. 674, "Sumatra" (1830).

Malaccan and Bornean individuals do not differ from Sumatran. Although there is no doubt that *M. javensis*, Horsf., refers to this species, for the types were compared (*vide* Horsf. & Moore, Cat. Mus. E.I. C. i. p. 261), still I concur with Count Salvadori in rejecting the name; for it was published without any diagnosis, and the titles of two other very distinct species of *Phyllornis* were given as explanatory synonyms. The description of *T. viridis* has, moreover, precedence in the list, and is perhaps a better title than *javensis*, which tends to circumscribe the geographical range. Count Salvadori, however, passes over the title of *viridis* also, and adopts that of *sonneratii*, Jard. & Selby.

73. Phyllornis icterocephala.

Turdus cochinchinensis, Gm., Raffles, *t. c.* p. 309, "Sumatra."

Phyllornis malabaricus, Gm., Temm. Pl. Col. 512. f. 2, "Sumatra" (1829).

Phyllornis icterocephalus, Lesson, Rev. Zool. 1840, p. 164, ex Temm.

Malaccan individuals offer no points of difference. But a Bornean male from Simanjou has the blue of the shoulders of a perceptibly darker shade, and belongs to *P. viridinucha*, Sharpe, a species the validity of which I am somewhat doubtful of.

74. Phyllornis cyanopogon.

Phyllornis cyanopogon, Temm. Pl. Col. 512. f. 1, "Sumatra" (1829).

Specimens from Malacca are not separable. *P. mystacalis*, Sw. (2¼ Cent. p. 296), is either the female or young male of this species. Ibis, 1877, p. 306.

75. Ixus analis.

Turdus analis, Horsf. *t. c.* p. 147, "Java" (1820); Raffles, *t. c.* p. 310, "Sumatra."

Otocompsa personata, Hume, Str. F. 1873, p. 456, "Acheen."

Inseparable from typical specimens, and identical with Malaccan and Bornean examples.

76. Criniger phæocephalus.

Ixos phæocephalus, Hartl. Rev. Zool. 1844, p. 401, "Malacca;" Walden, Ibis, 1871, p. 169, t. 6. f. 2. [*Anteà*, p. 107.]

Sumatran and typical examples are identical.

77. Tricholestes criniger.

Brachypodius (?) *criniger*, A. Hay, Blyth, J. A. S. B. 1845, p. 577, "Malacca."
Tricophorus minutus, Hartlaub, J. für O. 1853, p. 156, "Malacca."
Tricholestes minutus (Hartlaub), Salvadori, *t. c.* p. 265, t. v. f. 1, "Sarawak" (1874).

Mr. Buxton procured one specimen, which in no way differs from Sarawak individuals. Why has Count Salvadori (*l. c.*) preferred Hartlaub's title, *minutus*, for the Malaccan bird to mine of *criniger*, published seven years previously?

78. Alcurus ochrocephalus.

Turdus ochrocephalus, Gm. S. N. i. p. 821 (1788); Walden, Ibis, 1872, p. 379. [*Anteà*, p. 230.]

79. Rubigula dispar.

Turdus dispar, Horsf. *t. c.* p. 150, "Java" (1820); Raffles, *t. c.* p. 310, "Sumatra;" Temm. Pl. Col. 137.

80. Brachypus euptilosus.

Brachypus euptilosus, Jard. & Selby, Ill. Orn. t. iii., "Singapore" (1825?).

Malaccan examples do not differ.

81. Brachypus plumosus.

Pycnonotus plumosus, Blyth, J. A. S. B. 1845, p. 567, ♂, "Singapore."
Ibis, 1877, p. 307. *Pycnonotus brunneus*, Blyth, *t. c.* p. 568, ♀, "Malacca."
Brachypus modestus, A. Hay; Blyth, *t. c.* p. 568, ♀, "Malacca."

The single example in Mr. Buxton's collection is passing from the brown plumage of the immature *B. brunneus* to the greener plumage of the adult. Count Salvadori (*t. c.* p. 199) states that the brown birds are females and young males, while the adult males are distinguished by the green colouring of the wings and tail. In a large series of the species, with sexes ascertained by dissection, and collected at Malacca by Mr. W. Ramsay, I find females fully as green in plumage as males. An example collected by Mr. Maingay at Malacca, with green wings and tail, is marked by that collector as being a female; and he was a most competent authority. A large series from Java consists of examples undistinguishable from Malaccan. Labuan individuals also belong to the same species.

Pycnonotus pusillus, Salvadori (*t. c.* p. 200) seems to be the bird described by Moore under the title of *Microtarsus olivaceus* (Cat. E.I. C. Mus. i. p. 249), ex Malacca, where it is not uncommon. I have compared Bornean examples and can detect no difference.

82. Brachypodius melanocephalus.

Lanius melanocephalus, Gm. S. N. i. p. 309. no. 51 (1788).
Turdus melanocephalus, Raffles, *t. c.* p. 310, "Sumatra" (1820).
Brachypodius immaculatus, Sharpe, Ibis, 1876, p. 39, "Sibu, Borneo."

Identical with Malaccan and Bornean individuals; all the rectrices with a dark transverse band. *B. immaculatus*, Sharpe, cannot be separated.

83. IOLE OLIVACEA.

Iole olivacea, Blyth, J. A. S. B. 1844, p. 386, "Malacca."

A single Sumatran example of a bird was obtained by Mr. Buxton, which agrees well with the Malaccan form I refer to *Iole olivacea*, Blyth.

84. ORIOLUS XANTHONOTUS. Ibis, 1877, p. 308.

Oriolus xanthonotus, Horsf. *t. c.* p. 152, "Java" (1820); Zool. Res. Java, t. 46.

Javan, Sumatran, Malaccan, and Bornean examples exhibit no specific differences.

85. ORIOLUS CORONATUS.

Oriolus chinensis, Linn., Raffles, *t. c.* p. 303, "Sumatra," nec Linn.
Oriolus coronatus, Sw. 2¼ Cent. p. 342, "Java" (1837).

Mr. Buxton obtained a large series, which are identical with typical examples.

86. CYANODERMA ERYTHROPTERUM.

Timalia erythroptera, Blyth, J. A. S. B. 1842, p. 794, "Singapore."
Timalia pyrrhophæa, Hartl. Rev. Zool. 1844, p. 402, "Sumatra."

On comparing examples obtained at the foot of Mount Ophir, Malacca, by Mr. W. Ramsay, who carefully, by dissection, ascertained the sexes, I can find no difference of plumage whereby the male can be distinguished from the female.

87. MACRONUS PTILOSUS.

Macronus ptilosus, Jard. & Selby, Ill. Orn. t. 150 (1835).
Timalia trichorros, Temm. Pl. Col. 594. f. 1, "Borneo, Sumatra" (1836).

Malaccan, Bornean, and Sumatran examples belong to one species.

88. BRACHYPTERYX BUXTONI. (Plate VI. fig. 2, *in orig.*)

Brachypteryx buxtoni, Tweeddale, P. Z. S. 1877 p. 367 (April 17th). [*Anteà*, p. 438.]

89. DRYMOCATAPHUS NIGRICAPITATUS.

Brachypteryx nigrocapitata, Eyton, P. Z. S. 1839, p. 103, "Malacca."

The Sumatran bird in no way differs from the type species.

90. MALACOPTERON MAJUS. Ibis, 1877, p. 309.

Malacopteron majus, Blyth, J. A. S. B. 1847, p. 461, "Malacca;" Salvadori, Ucc. Born. p. 225.
Napothera pileata, Müll., Bp. Consp. i. p. 359, "Sumatra, Borneo" (1850).

Sumatran and Malaccan examples are identical; and I may add that examples of the nearly allied *M. magnum*, Eyt., from Sumatra and Malacca, in my collection in no way differ.

91. Pitta boschii.

Pitta boschii, Müll. & Schl. Verhandl. Nat. Gesch. Ned. Ind. *Aves*, pp. 5, 16, t. 1, "Sumatra" (1839–44).

There are no specific differences between Malaccan and typical examples.

92. Cittocincla macroura.

Turdus macrourus, Gm. S. N. i. p. 820 (1788).

The Sumatran examples do not differ from Malaccan, Javan, Burmese, Indian, Ceylonese, and Hainan individuals.

93. Copsychus musicus.

Lanius musicus, Raffles, *t. c.* p. 307, "Sumatra" (1821); Walden, Ibis, 1872. p. 102 *.

Copsychus problematicus, Sharpe, Ibis, 1876, p. 36, "Borneo."

Some years ago (*l. c.*) I endeavoured to show that the Malayan and Javan *Copsychus*, belonging to the *C.-saularis* section, differed from *C. saularis* in having the under wing-coverts "white centred with black;" and I suggested that, as the Sumatran species would in all probability be found to agree with them, they would fall under the title of *musicus*, given by Sir S. Raffles to the Sumatran Dayal. Comparing the specimens obtained by Mr. Buxton, I find that this surmise was correct. They also possess only six pairs of white rectrices, as against eight in true *C. saularis*—a character which is almost constant in Malaccan birds also.

The Javan race has a very short bill, but is otherwise identical with Sumatran *C. musicus*. Swainson long ago ($2\frac{1}{4}$ Cent. p. 292) distinguished it under the title of *brevirostris* †. Mr. Sharpe (*l. c.*) has recently bestowed a new title, *problematicus*, on the Bornean form, giving as its distinctive character the black-centred under wing-coverts. Ibis, 1877, p. 310.

94. Henicurus frontalis.

Enicurus frontalis, Blyth, J. A. S. B. 1847, p. 156, "Malacca;" Elwes, Ibis, 1872, p. 259, t. ix.

Hitherto only recorded as inhabiting Malacca. Closely allied to *H. leschenaulti*, but of smaller dimensions. In one of Mr. Buxton's examples the white tips of the fourth pair of outer rectrices overlap the black portion of the third outer pair. In another individual the fourth pair is much shorter, and the white bars on the tail appear as represented in Mr. Elwes's plate. Both birds are otherwise alike and in full plumage, the frontal plumes being much developed and fully equalling, if not exceeding, the frontal crest of Javan *H. leschenaulti*.

In all Ningpo examples of fully plumaged specimens of *H. leschenaulti* (*E. chinensis*) I have examined, the outer pair of tail-feathers are about an inch shorter than the second pair, whereas in typical (Javan) *H. leschenaulti*, the outer pair equals the next pair; and this holds good in individuals from the Dafla hills and Tenasserim. The Javan bird is also considerably smaller than the Chinese species.

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* [*Anteà*, p. 119.—Ed.]

† Erroneously identified with *C. amœnus* in Horsfield & Moore's Catalogue.

95. Calobates melanope.

Motacilla melanope, Pallas, It. iii. p. 696 (1776).
Motacilla bistrigata, Raffles, *t. c.* p. 312, "Sumatra" (1821).

96. Budytes viridis.

Motacilla viridis, Gm. S. N. i. p. 962 (1788).

97. Corydalla malayensis.

Anthus malayensis, Eyton, P. Z. S. 1839, p. 104, "Malacca."
(?) *Anthus hasseltii*, Temm.; Schlegel, Handleiding Dierk. i. p. 263, "Java" (1857).
Alauda pratensis, Linn., apud Raffles, *t. c.* p. 315, "Sumatra," nec Linn.

One Sumatran example is in the collection, and does not differ from the common Malaccan *C. malayensis*. Count Salvadori has suggested that *C. hasselti*=*C. malayensis*; but the former is more nearly allied to *C. lugubris*, if the Bornean specimen marked *C. hasselti* in the British Museum is correctly determined.

Ibis, 1877, p. 311.

Corydalla lugubris, Walden, differs from *C. malayensis* in having white superciliary patches before the eye, in the breast-markings consisting of a few sparse narrow brown lines, and not broad brown centres to the feathers, and in the ground-colour of the breast being albescent, and not pale rufous. Above, the colouring and markings of the two species are very similar.

98. Prinia familiaris.

Prinia familiaris, Horsf. *t. c.* p. 165, "Java" (1820); Zool. Res. Java, t. 52.
Motacilla olivacea, Raffles, *t. c.* p. 313, "Sumatra" (1821).

Mr. Buxton's Sumatran examples are identical with typical specimens. One of the Sumatran birds possesses white lores. The species also occurs in the island of Madura.

99. Prinia rafflesi, sp. nov. (Plate VI. fig. 1, *in orig.*)

Mr. Buxton's collection contains two examples of a species of *Prinia* I am unable to identify. It may be the same as *M. olivacea*, Raffles (*l. c.*); but that bird has been determined by Horsfield and Moore (Mus. E.I. C. i. p. 320) to be *P. familiaris*.

Above olive-green, front of head ashy. Lores, which extend partly over the eye, white. Chin, throat, cheeks, and upper breast white. Lower breast, abdomen, flanks, ventral region, and under tail-coverts pure canary-yellow. Thigh-coverts yellow, tinged with ferruginous. Carpal edge and under carpal coverts yellow-white. Quills brown, with olive-green edgings. Rectrices pale brown, washed with green, and with an obscure darker brown subterminal spot and pale tips. Bill black and slender as compared with that of *P. familiaris*. Bill from forehead 0·72, wing 1·18, tarsus 0·75, tail 2·50.

Differs from *P. familiaris* in wanting the conspicuous white tips to the minor and major wing-coverts, in being darker olive-green above, in the olive-green fringings of the quills and colouring of the rectrices, in wanting a distinct brown cap, and in the brown subterminal tail-bands being indistinct and obscure, and the pale apical bands being narrower and ill defined. It

Ibis, 1877, p. 312.

is more nearly allied to *P. flaviventris*, but differs in having a longer stouter bill, by being of a much darker, less yellow, green above, and by the possession of subterminal brown spots on the rectrices, a character which is seemingly never present in *P. flaviventris.* I have compared it with twenty examples of *P. flaviventris* from localities ranging from Rangoon to Bootan, and with nine specimens of *P. familiaris.*

100. Orthotomus cineraceus.

Orthotomus cineraceus, Blyth, J. A. S. B. xiv. p. 589, "Malacca" (1845).
Orthotomus sepium, Horsf., var. ex Sumatra, Temm. Recueil d'Ois. livr. 101.
Orthotomus borneoënsis, Salvadori, *t. c.* p. 247, "Sarawak" (1874); Sharpe, Ibis, 1876, p. 41, t. ii. f. 1; idem, *op. cit.* 1877, p. 116.

Sumatran individuals do not differ from typical and Bornean examples. True *O. sepium* extends to the island of Madura. *O. edela* is the Javan form of *O. sutorius*, but wants the white lores and superciliary stripe of the continental species.

101. Graucalus sumatrensis.

Ceblepyris novæ-guineæ, S. Müll. Verhand. Land- en Volkenk. p. 190, nec Lath.
Ceblepyris sumatrensis, S. Müll. *t. c.* p. 191, "Sumatra" (1829–44).
Graucalus concretus, Hartl. J. f. O. 1864, p. 445, "Borneo."

Identical with Malaccan and Bornean examples. None of the birds obtained by Mr. Buxton, old males included, possess a black lorum and ocular stripe.

102. Volvocivora culminata.

Ceblepyris culminatus, A. Hay, Madr. J. L. & Sc. xiii. p. 157 *, "Malacca" (1844).
Volvocivora schierbrandi, v. Pelzeln, "Novara," p. 80, t. 2. f. 1 (1865).
Ibis, 1877, p. 313. *Volvocivora borneoënsis*, Salvad. Atti R. Ac. Sc. Tor. iii. p. 532 (1868).

Bornean, Sumatran, and typical examples in plumbeous-coloured plumage do not differ.

103. Lalage dominica.

Turdus dominicus, L. S. Müller, Suppl. p. 145 (1776).
Turdus terat, Bodd. Tabl. Pl. Enl. p. 17 (1783).
Lanius striga (Horsf.), Raffles, *t. c.* p. 305, "Sumatra" (1821).

104. Hemipus obscurus.

Muscicapa obscura, Horsf. *t. c.* xiii. p. 146, "Java" (1820); Zool. Res. Java, t. 39. f. 2.
Lanius no. 12, Raffles, *t. c.* p. 308, "Sumatra."

Malaccan, Sumatran, and typical examples are alike.

105. Artamus leucorhynchus.

Lanius leucorhynchus, Linn. Mantissa Plant. p. 524, "Manilla" (1771); Raffles, *t. c.* p. 306, "Sumatra."

Does not differ from typical examples.

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* [*Anteà*, p. 10.—Ed.]

106. Dissemurus platurus.

Le Drongo à raquette, Le Vaillant, Ois. d'Afr. iv. p. 73, t. 175 (1805).

Dicrurus platurus, Vieillot, N. Dict. d'Hist. Nat. ix. p. 558 (1817), ex Le Vaill.

Lanius malabaricus, Lath., Raffles, *t. c.* p. 306, "Sumatra," nec Lath.

Edolius retifer, Temm. Rec. d'Ois. livr. 30, sub *Edolius remifer*, "Malacca, Java, Sumatra" (1823), partim, ex Le Vaill.

(?) *Edolius intermedius*, Less. Tr. p. 380, "des Moluques" (1831).

Edolius rangoonensis, Gould, P. Z. S. 1836, p. 5, "Rangoon;" J. & S. Illustr. Orn. t. xxxviii. (1840), ex Gould.

Edolius malayensis, Blyth, Jerd. B. Ind. i. p. 438 (1862).

Four examples of the genus *Dissemurus* contained in Mr. Buxton's collection cannot be separated from the crestless Malaccan species. But the difficult question arises, What is the correct title of the Malaccan Racket-tailed Drongo? Sumatra, Borneo, and Malacca are the only three areas, so far as is now known, which are inhabited by full-plumaged birds devoid of a frontal crest; but Sonnerat figured and described a species of *Dissemurus* without a crest from the Malabar coast (Voy. Indes, ii. p. 195, t. 111). On this Scopoli founded the title of *Muscicapa malabarica* (Del. Fl. Faun. Insubr. ii. p. 96, 1786), and later on Latham the title of *Lanius malabaricus* (Ind. Orn. i. p. 66, 1790). It has consequently been contended by some authors that Sonnerat described from and figured a Malaccan bird, and that therefore the title of *malabaricus* does not belong to the Malabar bird; by others (*e. g.* Temminck, *l. c.*), that the Malabar bird belonged to the same species as the Javan and Sumatran; and as the title of *malabaricus* was inappropriate, Temminck altered the name to *retifer* (lege *setifer*), a title restricted by recent authors to the Javan crested bird. Sonnerat's figure, from whatever species it may have been taken, is, without doubt, most inaccurate; and Le Vaillant (*l. c.*) severely criticised it; but Sonnerat distinctly leaves it to be understood that his type was from the Malabar coast; and Buffon (Hist. Nat. iv.) alludes to Sonnerat having sent him the bird from the coast of Malabar, Sonnerat (*l. c.*) stating that the bird he describes and figures is the one he sent to Buffon. The crest in adult Malabar birds is not largely developed; and it is quite possible that Sonnerat figured a young bird, or else that he overlooked the short impending nasal plumes. Le Vaillant (*l. c.*) was the next author who wrote on a species of Racket-tail Drongo; and he gave a description and plate of a crestless species of *Dissemurus*. The origin of his type it is now impossible to discover; for he merely tells us that it came from the collection of a Mons. Dorcy. The description and plate most accurately represent the Malaccan and Sumatran form; and as Vieillot founded his title of *platurus* (*l. c.*) on Le Vaillant's description and plate, I adopt it for that species. It could not well have been taken from a Javan; for that race is crested, and great care is exhibited in the drawing.

Ibis, 1877, p. 314.

The only other crestless form inhabits Borneo, and was separated by Temminck under the title of *brachyphorus* (Bp. Consp. i. p. 351). Count Salvadori (*t. c.* p. 154) somewhat doubts the propriety of separating the Bornean from the Malaccan *Dissemurus*; but the much smaller spatulate termination of the outer pair of rectrices seems to be a constant character in the adults of the Bornean species; and I have examined a very large series, both at Leiden and in my own collection, from Labuan, Sarawak, and Banjermassing. Rangoon adult birds have a crest, and belong to true *D. paradiseus*.

Ibis, 1877, p. 315.

107. Chaptia malayensis.

Chaptia malayensis, A. Hay, J. A. S. B. 1846, p. 294, "Malacca;" Walden, J. A. S. B. 1875, extra number, pt. ii. p. 128.

Edolius picinus, S. Müller, Bp. Consp. i. p. 352, "Sumatra" (1854).

Malaccan and Sumatran individuals do not differ.

108. Buchanga leucophæa.

Dicrurus leucophæus, Vieillot, N. Dict. d'Hist. Nat. ix. p. 587 (1817).

Edolius cineraceus, Horsf. *t. c.* p. 145, "Java" (1820).

Javan and Sumatran examples are identical.

109. Pericrocotus ardens.

Turdus flammeus (Gm.), Raffles, *t. c.* p. 310, "Sumatra."

Phœnicornis ardens, "Boie," Mus. Lugd.; Bp. Consp. i. p. 357, "Sumatra" (1850); Salvad. *t. c.* p. 143, t. ii. f. 1, 2.

Pericrocotus flammifer, Hume, Str. F. iii. p. 321, note, "Mergui" (1875).

Bornean and Malaccan examples agree with typical. Horsfield and Moore (Cat. E.I. C. Mus. ii. p. 142) refer *T. flammeus*, apud Raffles, and *P. ardens* to *P. xanthogaster*.

110. Pericrocotus peregrinus.

Parus peregrinus, Linn. S. N. i. p. 342 (1766).

One specimen, seemingly belonging to this species, was obtained by Mr. Buxton; but as it is in immature plumage it is difficult to determine with certainty.

111. Pericrocotus xanthogaster.

Lanius xanthogaster, Raffles, *t. c.* p. 309, "Sumatra" (1821).

Ibis, 1877, p. 316. The small section of the *Pericrocotidæ* of which *P flammeus* may be considered the type, is represented both in Sumatra and Java by a race which it may perhaps be proper to separate as a distinct species. Of this form two representatives are contained in Mr. Buxton's collection. It is a smaller bird than *P. flammeus*, and it differs in the orange edgings of the outer webs of some of the secondaries uniting with the orange-coloured mark lower down, as is to be found in *P. brevirostris*. The female of this form appears to have supplied the type of *Lanius xanthogaster*, Raffles.

112. Philentoma pyrrhopterum.

Muscicapa pyrrhoptera, Temm. Pl. Col. t. 596, "Sumatra, Borneo" (1836).

Examples from Borneo and Malacca perfectly agree with the one obtained in the Lampong district by Mr. Buxton.

113. HYPOTHYMIS AZUREA.

Muscicapa azurea, Bodd. Tabl. Pl. Enl. p. 41 (1783).
Muscicapa cœrulea, Gm., Raffles, *t. c.* p. 312, "Sumatra."

114. MUSCIPETA AFFINIS.

Tchitrea affinis, A. Hay, J. A. S. B. 1846, p. 292, "Malacca."

Sumatran specimens similar to typical.

115. CYORNIS ELEGANS.

Muscicapa elegans, Temm. Pl. Col. 596. f. 1, "Sumatra" (1836).

The species obtained by Mr. Everett at Marup, in North Borneo, and provisionally identified by me with *C. elegans* (Ibis, 1872, p. 373*), is not to be specifically distinguished from the typical example in Mr. Buxton's collection.

116. LEUCOCERCA JAVANICA.

Muscicapa javanica, Sparrm. Mus. Carls. fasc. iii. t. 75, "Java" (1789); Raffles, *t. c.* p. 312, "Sumatra."

Agrees with typical and Malaccan specimens.

117. HIRUNDO JAVANICA.

Hirundo javanica, Sparrm. Mus. Carls. fasc. iv. t. 100, "Java" (1789).

Neilgherry examples (*H. domicola*, Jerd.) cannot be separated.

118. CYMBORHYNCHUS MACRORHYNCHUS.

Todus macrorhynchus, Gm. S. N. i. p. 446 (1788). Ibis, 1877, p. 317.
Eurylaimus lemniscatus, Raffles, *t. c.* p. 296, "Sumatra" (1821).
Cymborhynchus malaccensis, Salvadori, Atti R. Ac. Sc. Tor. ix. p. 425, "Malacca" (1874).

Six examples are in Mr. Buxton's collection, and they all possess the three outer pair of rectrices more or less marked with white on their inner webs. Therefore, according to Count Salvadori's view, the Sumatran bird should fall under *C. malaccensis*, Salvad. But if the Sumatran and Malaccan birds are really specifically distinct from the Bornean, and if the Bornean is the true Great-billed Tody of Latham, a title already exists in *lemniscatus*, Raffles; and that of *malaccensis*, Salvadori, is, in any case, unnecessary.

119. CALYPTOMENA VIRIDIS.

Calyptomena viridis, Raffles, *t. c.* p. 295, "Singapore, Sumatra" (1821).

Raffles affirms that the sexes do not differ; but this statement has not been supported by recent research (conf. Salvadori, *t. c.* p. 107). The species inhabits the Malay peninsula and Borneo, specimens from these regions not differing from Sumatran.

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* [*Anteà*, p. 226.—ED.]

120. Eurylæmus ochromelas.

Eurylaimus ochromalus, Raffles, *t. c.* p. 297, "Sumatra and Singapore" (1821).

Bornean, Penang, and Malaccan individuals are not to be distinguished from Sumatran.

121. Corydon sumatranus.

Coracias sumatranus, Raffles, *t. c.* p. 303, "Sumatra" (1821).

Birds from the Karen hills, Tenasserim, Malacca, and Borneo exhibit no departure from the typical examples obtained by Mr. Buxton.

122. Padda oryzivora.

Loxia oryzivora, Linn. S. N. i. p. 302 (1766).

Ibis, 1877, p. 318.

123. Munia maja.

Loxia maja, Linn. S. N. i. p. 301 (1766).

Count Salvadori (*t. c.* p. 265) has controverted a suggestion of mine that this bird is replaced in Java by *M. ferruginea* (Sparrm.)=*M. majanoides*, Temm., on the ground that an undoubted example was obtained in Java by the "Magenta" Expedition. This evidence, however, appears hardly sufficient; for hundreds of Munias of almost every species may be bought at the different ports in the east, far away from their origin.

124. Munia leucogastroides.

Munia leucogastroides, Moore, Cat. E.I. C. Mus. ii. p. 510. no. 777, "Java" (1856–58); Walden, Ibis, 1874, p. 145. [*Anteà*, p. 266.]

The Sumatran examples do not differ from Javan.

125. Ploceus maculatus.

Loxia maculata, L. S. Müller, Suppl. p. 150. no. 56 (1776).
Loxia philippina, Linn. S. N. i. p. 305 (1766); Walden, Tr. Z. S. ix. p. 209.
Ploceus baya, Blyth, J. A. S. B. xiii. p. 945.

Mr. Buxton's collection only contains examples of females or non-breeding males of the Malayan race of *P. baya*, Blyth. As there seems to be little doubt that the species does not occur in the Philippines, I have adopted the next published title.

126. Platysmurus leucopterus.

Glaucopis leucopterus, Temm. Pl. Col. 265, "Sumatra" (1824).

Malaccan examples are identical.

127. Crypsirhina varians.

Corvus varians, Lath. Ind. Orn., Suppl. p. 26, "Java" (1801).

Examples from Burma, Java, and Sumatra are of one species.

128. CALORNIS CHALYBÆA.

Turdus chalybæus, Horsf. *t. c.* p. 148, "Java" (1820).
Lanius insidiator, Raffles, *t. c.* p. 307, "Sumatra" (1821).

Javan, Malaccan, and Bornean individuals are not specifically separable from those obtained in South-east Sumatra.

129. STURNOPASTOR CONTRA.

Ibis, 1877, p. 319.

Sturnus contra, Linn. S. N. i. p. 290 (1766).
Pastor jalla, Horsf. *t. c.* p. 155, "Java" (1820).

Javan and these Sumatran examples are not separable from the Indian and Burmese forms.

130. GRACULA JAVANENSIS.

Corvus javanensis, Osbeck, Voy. China & E. Ind. i. p. 157, "Java" (Eng. Tr. 1771).
Gracula religiosa, Linn.; Raffles, *t. c.* p. 303, "Sumatra."

The Sumatran examples from Lampong district are identical with others from East Java.

131. CORVUS VALIDUS.

Corvus validus, Temm., Bp. Consp. i. p. 385 (1854).

Malaccan and Sumatran birds do not differ.

We must accept Prof. Schlegel's assurance (Bijdr. t. d. Dierk. pp. 8 and 13, and Mus. Pays-Bas, *Coraces*, p. 29) that Prince Bonaparte did not describe the Gilolo (Halmahera) bird under the title of *C. validus*, but the Bornean and Sumatran and Timor (?) species. Still the Prince's words (*l. c.*), "*rostro capite multo longiore, valido, curvato*," read as if he were describing the Gilolo species, subsequently entitled *C. validissimus* by Schlegel. Little is known of the *C. validus*, as the learned Professor tells us (*l. c.*); and consequently its range has not been well defined. The Sumatran bird is identical with one of the Malaccan Crows; and Professor Schlegel identified Bornean examples with the Sumatran. He further gives the island of Timor as its habitat, and asserts that *C. timoriensis*, Bp., is but a synonym. But, by the context, the Prince appears to have bestowed this title on *C. macrorhynchus*, Temm. apud Wagler, which is the only species of *Corvus* enumerated by Mr. Wallace in his list of Timor birds. Professor Schlegel, it is true, includes Timor within the range of *C. validus* only on the strength of a single example (♀) brought from there by S. Müller, which may well have been but an imperfectly grown example of *C. macrorhynchus*. The *C. validus*, var., of Wallace, ex Sula Islands (P. Z. S. 1862, p. 343), is certainly only a race of *C. enca*, a species apparently confined to Java, Celebes, and the Sula Islands; and *C. annectens*, Brüggemann, ex Celebes (Abhandl. naturwissenschaft. Ver. Bremen, p. 64. no. 89), is not of the same type as *C. enca*. *C. corax*, apud Raffles (*l. c.*), has been referred by Wagler, Schlegel, and others to *C. macrorhynchus*; but there is no evidence whatever that that species inhabits Sumatra, and it is much more probable that Sir Stamford alluded to *C. validus*. Blyth (Ibis, 1870, p. 171) made the extraordinary identification of *C. macrorhynchus*, Temm., with *C. culminatus*, Sykes. In the Javan bird the

Ibis, 1877, p. 320.

bill is full three inches in length, and the basal portion of the body-plumage is pure white. Mr. Blyth has also stated that *C. culminatus* extends to Malacca (Cat. Calc. Mus. p. 89. no. 448; Ibis, 1863, p. 368), and that there also occurs *C. macrorhynchus*, Vieillot *. This last species Mr. Blyth identified with *C. tenuirostris*, Moore, ex Bombay, but which Mr. Blyth (*l. c.*) asserts was founded on a Malaccan skin. Two Malaccan examples (mus. nostr.) belong to *C. tenuirostris*; and I am not prepared off-hand to identify them with *C. validus*. Their chief character is the form of the bill. In *C. validus* the bill gradually and regularly diminishes from the base to the apex, and is much bulged throughout the course of the commissure. The culmen is rather acute than broad and rounded, and the height of the bill is considerable †. In *C. tenuirostris* the bill is longer, very much compressed, and flattened on the sides; the culmen is broad and rounded, and not acute. The height is also less, 0·70 as against 0·91. The length of the gonys is greater. In colouring, the lower plumage is of a more ashy tint; and the general dimensions are less. The base of the feathers is white, as in *C. validus*. The British Museum possesses examples of *C. tenuirostris* from both Borneo (Banjermassing and Labuan) and Sumatra.

Ibis, 1877, p. 321.

Corvus validus.

	Wing.	Tail.	Bill from nostril.	Gonys.	Tarsus.
Lampong	12·80	8·75	1·75	1·00	2·37
„	12·75	8·62	1·62	0·87	2·30
Malacca	12·75	8·50	1·62	1·00	2·25

Corvus tenuirostris.

	Wing.	Tail.	Bill from nostril.	Gonys.	Tarsus.
Malacca	12·50	7·00	1·75	1·18	2·00
„	12·25	7·00	2·12	1·25	2·00

132. TRERON NIPALENSIS.

Columba curvirostra, Gm., Raffles, *t. c.* p. 318, "Sumatra."
Toria nipalensis, Hodgs. As. Res. xix. p. 164, "Nipaul" (1836).
Treron nasica, Schlegel, Nederl. Tijdschr. Dierk. i. p. 67, "Borneo" (1863).

Assam, Sumatran, and Malaccan examples are identical.

133. BUTRERON CAPELLEI.

Columba capellei, Temm. Pl. Col. 143, "Java" (1823).
Vinago gigantea, Vigors, App. Mem. Raffles, p. 674, "Sumatra" (1830).

Malaccan individuals do not differ. Raffles does not appear to have ever published the title of *Columba gigantea* attributed to him by Mr. G. R. Gray (*Columbæ*, B. Mus. p. 13).

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* What is *C. macrorhynchus*, Vieillot? I cannot find that Vieillot ever bestowed such a title, although Jerdon, Blyth, and Bonaparte have all used it. Mr. Blyth is clearly referring to *C. validus*; for later (Ibis, 1870, p. 171) he identified *C. tenuirostris* with *C. validus*.

† The contour of the bill of *C. validus* is very much that of *C. levaillanti* (*C. culminatus*); but the culmen is not quite so much arched.

134. OSMOTRERON VERNANS.

Columba vernans, Linn. Mantissa, p. 526, "Philippines" (1771); Raffles, *t. c.* p. 318, "Sumatra;" Walden, Tr. Z. S. ix. p. 210.

Treron griseicapilla, Schlegel, Nederl. Tijdschr. Dierk. i. p. 70, "Sumatra, Bangka" (1863).

Notwithstanding Professor Schlegel's remarks (*l. c.*), I am unable to detect any specific difference between Sumatran and typical examples.

135. OSMOTRERON OLAX.

Columba olax, Pl. Col. 241, "Sumatra" (1823).

Sumatra supplied the type of this species; and Malaccan examples in no way differ.

136. SPILOPELIA TIGRINA. Ibis, 1877, p. 322.

Columba tigrina, Temm. Knip, Pig. t. 43 (1811).

The S.E. Sumatran examples do not differ from Javan, Malaccan, Bornean, and Celebean individuals. Temminck has left us in doubt as to the origin of the bird figured by Madame Knip.

137. GEOPELIA STRIATA.

Columba striata, Linn. S. N. i. p. 282 (1766).
Columba bantamensis, Sparrm., Raffles, *t. c.* p. 319, "Sumatra."

138. CHALCOPHAPS INDICA.

Columba indica, Linn. S. N. i. p. 284 (1766).
Columba javanica, Gm., Raffles, *t. c.* p. 317, "Sumatra."

139. ARGUSIANUS ARGUS.

Phasianus argus, Linn. S. N. i. p. 272 (1766); Raffles, *t. c.* p. 320, "Sumatra."

Sumatran and Malaccan birds do not differ.

140. ROLLULUS ROULOUL.

Phasianus rouloul, Scopoli, Del. Fl. Faun. Insubr. ii. p. 93, "Malacca" (1786).
Tetrao viridis, Gm., Raffles, *t. c.* p. 322, "Sumatra."

Identical with Bornean and typical examples.

141. CHARADRIUS FULVUS.

Charadrius fulvus, Gm. S. N. i. p. 687 (1788).
Charadrius pluvialis, var., Raffles, *t. c.* p. 328, "Sumatra."

142. ÆGIALITES GEOFFROYI.

Charadrius geoffroyi, Wagler, Syst. Av. *Charadrius*, no. 19 (1827); Harting, Ibis, 1870, p. 378, t. xi.

143. Glareola orientalis.

Glareola orientalis, Leach, Tr. L. S. xiii. p. 132, t. 13. f. 1, 2, "Java" (1820).

144. Tringoides hypoleucus.

Tringa hypoleucos, Linn. S. N. i. p. 250 (1766).

145. Totanus glareola.

Tringa glareola, Linn. S. N. i. p. 250 (1766).

Ibis, 1877, p. 323. 146. Erythra phœnicura.

Rallus phœnicurus, Forster, Zool. Ind. p. 19, t. 9, "Ceylon" (1781).
(?) *Rallus sumatranus*, Raffles, *t. c.* p. 328, "Sumatra" (1821).

147. Butorides javanica.

Ardea javanica, Horsf. *t. c.* p. 190, "Java" (1820); Raffles, *t. c.* p. 326, "Sumatra."

148. Ardea purpurea.

Ardea purpurea, Linn. S. N. i. p. 236 (1766).

149. Demiegretta sacra.

Ardea sacra, Gm. S. N. i. p. 640 (1788).

150. Sterna media.

Sterna media, Horsf. *l. c.* p. 198, "Java" (1820); Saunders, P. Z. S. 1876, p. 655.

151. Sterna bergii.

Sterna bergii, Lichtenst. Verzeich. p. 80, "South Africa" (1823); Saunders, *t. c.* p. 657.
I am indebted to Mr. Saunders for the identification of these two Terns.

Ibis, 1877, p. 385.

Letter on the identity of Pellorneum minus, *Hume, with* P. subochraceum, *Swinhoe, and* P. tickelli, *Blyth, from the* Marquis of Tweeddale *to the* Editors *of* 'The Ibis' (July 1877).

Sirs,—In 1875 the Asiatic Society of Bengal did me the honour of intrusting to me the task of editing the posthumous Catalogue of the Birds of Burma written by Mr. Blyth. While in no degree underrating the responsibility of the duty I was asked to perform, I accepted the trust with some confidence, because Mr. Blyth, not very long before his lamented death, had gone through all his manuscript with me at Chislehurst, and, while inviting the freest criticism, only made such alterations as he was satisfied in his mind were well founded. It is needless to say Ibis, 1877, p. 386.

that I had but few corrections to suggest, and that Mr. Blyth exhibited all that accuracy, acuteness, and retentive power of memory for which he was so remarkable. In the Catalogue as it now appears in the Journal of the Asiatic Society of Bengal, all the additions or observations made by me are enclosed in brackets, as stated by Mr. Grote in his introduction.

On page 114, at no. 359, it will be found that Mr. Blyth identified *Pellorneum subochraceum*, Swinhoe, with his own species, *Pellorneum tickelli*, Blyth. Knowing that Mr. Blyth would not hazard such an identification without good grounds, and as I had never seen the type of *P. tickelli*, Blyth, I felt bound, as his editor, to accept Mr. Blyth's views concerning his own species; and I therefore allowed the synonymy, as set forth by Mr. Blyth, to stand without alteration or remark. I felt that it would be somewhat presumptuous in me, without the type specimen in my own hand, to assume that Mr. Blyth did not know a species described by himself. I consequently accepted the title *P. subochraceum*, Swinhoe, it being of more recent date, as a synonym of *P. tickelli*, Blyth.

In 1873 Mr. Hume described (Str. F. i. p. 298) a species of *Pellorneum* from Thayetmyo under the title of *P. minor*. This is undoubtedly the same bird as *P. subochraceum*, Swinhoe (Ann. N. H. ser. 4, 1871, vii. p. 257). In the Catalogue, no. 360, I therefore remarked that *P. minor*, Hume, was "a synonym of *P. tickelli*," accepting that title on Mr. Blyth's authority as being equal, though older, to *P. subochraceum*. That *P. minor*, Hume, was not a distinct species (I happened to possess a large series collected by Lieutenant W. Ramsay), that it had been described two years previously by Mr. Swinhoe, was, while not a matter of great surprise, beyond all doubt when I wrote. But Mr. Oates has recently (Str. F. 1876, p. 406) endeavoured to show that I, not Mr. Blyth, have "made a strange mistake" in identifying *P. tickelli* with *P. minor*, or, in other words, with *P. subochraceum*. I do not admit that Mr. Blyth was wrong in his identification of *P. subochraceum* with *P. tickelli*; for, with the greatest respect to the superior knowledge of Mr. Oates, I am inclined (perhaps from mere editorial partiality) to believe that Mr. Blyth was as likely to know as much, I will not say more, about the specimen and species he himself had described, than even Mr. Oates, who had never seen it. But if there is an error on my part in referring *P. minor*, Hume, through *P. subochraceum*, Swinhoe, to *P. tickelli*, Blyth, it must be Mr. Blyth's "dictum," and not mine, "that will not be readily accepted by those who are conversant with local Indian ornithology."

Ibis, 1877, p. 387.

Mr. Oates speaks confidently of having seen and shot *P. tickelli*, Blyth, on the Pegu hills. Mr. Hume, in his "List of the Birds of Upper Pegu" (*op. cit.* 1875, p. 119), goes no further than to "suppose" that the only specimen sent to him by Mr. Oates belongs to *P. tickelli*; and Mr. Oates (*l. c.*) remarks that that "specimen agrees pretty well with Blyth's meagre description." But when it becomes an object to impress on the readers of 'Stray Feathers' that I, in my capacity of Mr. Blyth's editor, have arrived "at hasty and, in many cases, erroneous conclusions," then the fact that it was Mr. Blyth, and not I, who identified his own species with one that is notoriously the same as *P. minor*, is omitted, Mr. Hume's bare "supposition" becomes a demonstrated fact, and "Blyth's meagre description," with which Mr. Oates's solitary specimen only "agrees pretty well," is considered, along with Tickell's (which is also as meagre, and was also before Mr. Oates), "to give us all the really essential particulars of the plumage."

But, Sirs, what will probably more interest you and your readers is, whether I was justified in treating the title of *P. minor* Hume, (lege *minus*), as a synonym of some previously described species. Upon this point there is no doubt; for I have taken the trouble to again examine the type of *P. subochraceum*.

I remain yours,
TWEEDDALE.

Chislehurst, April 26, 1877.

Ibis, 1877, p. 388.

Letter relating to two Species of Batrachostomus *described by Mr. A. O. Hume, from the* Marquis of TWEEDDALE, *to the* EDITORS *of* 'THE IBIS' (July 1877).

SIRS,— In my additional notes to Mr. Blyth's "Catalogue of the Birds of Burma," when dealing with *Otothrix hodgsoni*, I gave a bare list of all the species of the genus *Batrachostomus* then known to inhabit the Indian region, and their synonymy. With regard to two species I simply wrote "no. 2. *B. affinis*, Blyth, =*P. parvulus*, Temm., =*B. castaneus*, Hume," and "no. 3. *B. moniliger*, Layard, =*B. punctatus*, Hume." For these identifications of two of Mr. Hume's new (?) species "the editor of the ornithological part" (*sic*) "of Blyth's Birds of Burma" (Str. F. iv. p. 376) has been assailed by Mr. Hume with a fretful levity and poverty of analytical perception which would have rendered it unnecessary for me to notice his remarks, had not Mr. Blanford addressed you a letter on the subject, published in the April number of 'The Ibis' (Ibis, 1877, p. 249); for it need hardly be said that I receive opinions formed by Mr. Blanford on ornithological questions with the respect that those who know him personally or through his writings cannot fail to entertain.

The general conclusions I had arrived at (*l. c.*) were formed after repeated and anxious study of a comprehensive series of specimens and of the literature on the subject. But Mr. Blanford, I observe, makes a statement so diametrically at variance with one of my principal conclusions that, if it can be established*, my assertion (*l. c.*) that *B. castaneus*, Hume, =*B. affinis*, Blyth, must be erroneous. Its accuracy or inaccuracy turns on the fundamental question, What is *B. affinis*, Blyth? Mr. Blanford asserts that "conspicuous white spots" "occur on the wing-coverts of *B. affinis*" (*l. c.*), and that the "feathers of the breast and abdomen are pale isabelline, with rufous edges, which are broader on the breast," but that "in *B. castaneus* the greater portion of the lower surface is the same colour as the back, chestnut; but many feathers on the throat, breast, and upper abdomen are white, with black margins." Now, on the other hand, Ibis, 1877, p. 389. Blyth distinctly stated, in his original description of *B. affinis* (J. A. S. B. 1847, p. 1180), that it "has no white spots on the wing," that the "throat and breast" are "plain rufous, with a few white feathers, having a subterminal dusky border on the fore neck and sides of the breast." Mr. Blyth introduces *B. affinis* as being "very similar to *B. javensis* in the plumage figured by Horsfield" (Zool. Res. Java, t. 37)—that is, with unspotted wings—but "smaller." Again, two years later (*op. cit.* 1849, p. 807), Mr. Blyth, when detailing the characters which distinguish

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* [Since this letter has been in type we have received a letter from Mr. Blanford requesting that his former letter (already published in our last number, p. 249) should be cancelled. He has "looked at one of Blyth's types of *Batrachostomus*, and found that Lord Tweeddale is right and Mr. Hume wrong!"—EDD. of 'Ibis.']

B. moniliger, Layard, from *P. javensis*, Horsf. apud Blyth (nec Horsf., sed=*P. stellatus*, Gould, =*B. stictopterus*, Cab.), and from *B. affinis*, remarks:—"the bright white spots on the wings" (of *B. moniliger*) "distinguish it as readily from *B. affinis*." Indeed it is the uniform chestnut-coloured unspotted wing which at once distinguishes *B. affinis*, Blyth (when in rufous plumage), from both *B. moniliger*, Layard, ex Ceylon, and *B. javensis*, Horsf. apud Blyth, ex Malacca, nec Horsf. It is essential to the argument to bear in mind that the larger of the two Malaccan forms (I am excluding *B. auritus*) is the bird always referred to as *B. javensis*, Horsf., by Blyth, except where he quotes Horsfield's plate (Zool. Res. Java), and that Blyth, like every one else, until Dr. Cabanis discriminated and clearly described the Malaccan species (for Mr. Gould's diagnosis is too vague, and he gave Java as the habitat), assumed the latter to belong to the same species as the Javan bird. The Malaccan bird, *B. stellatus*=*B. stictopterus*, has spotted wing-coverts in both its rufous and brown phases of plumage (♀ ♂?); and from Mr. Blanford's clear descriptive remarks, it is evidently the species identified by him in Mr. Hume's museum as belonging to *B. affinis*, Blyth. It is a bird of which examples occur in almost every Malaccan collection of any importance, either in the bright rufous or in the brown phase of plumage, while *B. affinis* does not appear to be so common. The difference in the width of the gape noted by Mr. Blanford is just the difference observable between the gape of *P. javensis*, apud Blyth, ex Malacca (=*P. stellatus*, Gould), and *B. affinis*, Blyth.

Ibis, 1877, p. 390.

Mr. Blanford inadvertently makes a slip when he states (p. 253) that "the fragments of two specimens of *Batrachostomus*, from Darjeeling, briefly described by Mr. Blyth in 1849 (J. A. S. B. xviii. p. 806), were at first referred by him to *B. affinis*; but subsequently, in his 'Catalogue of the Birds in the Museum of the Asiatic Society,' p. 31, he ascribed them to 'a nearly allied but distinct species.'" The facts are exactly the reverse. Mr. Blyth announced the receipt of the fragments from Darjeeling and his opinion, above quoted, *first*, and not "subsequently," in the Catalogue. Afterwards, in his "Supplemental note to the Catalogue of the Birds in the Asiatic Society's Museum" (J. A. S. B. 1849, p. 806. no. 405, paper quoted by Mr. Blanford), no. 405, being the number under which *B. affinis* stands in the 'Catalogue,' Mr. Blyth published his matured opinion along with a description of the two specimens. His words are, "two specimens of what we now consider to be the young of this species" (*B. affinis*). If this were not a slip, Mr. Blanford's version would deprive me of the support of one of the many facts which led me to the inference that *B. castaneus*, Hume,=*B. affinis*, Blyth. Mr. Blyth's last-published opinion about *B. affinis* is contained in a footnote to page 83 (B. Burma), where he alludes to *B. affinis* being "probably *Otothrix hodgsoni*, G. R. Gray, if the two really differ." Malaccan examples of *B. affinis*, in grey and brown spotted dress, are difficult to distinguish from the type of *O. hodgsoni*; but I did not venture to identify (B. Burma, no. 162) Gray's species with *B. affinis* and *B. castaneus* in the face of Mr. Hume's positive statement (Str. F. ii. p. 349) that "Mr. Hodgson's bird" (type of *O. hodgsoni*) "was certainly an adult female by dissection;" for Lieutenant W. Ramsay (B. Burma, no. 162) had determined by dissection that the sex of a species of *Batrachostomus*, ex Burma, hardly differing from *O. hodgsoni*, was a male. This statement Mr. Hume has now reduced to "It is true, when I formerly wrote, I thought it (relying upon what Hodgson recorded) probable that *hodgsoni* was the female" (Str. F. iv. p. 378). The certainty of the fact arrived at by Mr. Hodgson after dissection, as first stated by Hume, being thus minimized to only a proba-

Ibis, 1877, p. 391.

bility, and in the absence of the exact words used by Mr. Hodgson when recording the fact of having dissected the bird (if any such exist), there need be little hesitation in now reframing the synonymy of this species thus:—*B. affinis*, Blyth,=*Podargus parvulus*, Temm.,=*Otothrix hodgsoni*, G. R. Gray,=*B. castaneus*, Hume.

But the key-stone of Mr. Blanford's contention is the statement that the three specimens in Mr. Hume's collection, of what Mr. Blanford identifies with *B. affinis* (but which I venture to contend are *B. javensis*, apud Blyth,=*B. stellatus*=*B. stictopterus*) "have been compared with Blyth's original type in Calcutta." I do not quite gather whether Mr. Blanford himself personally compared Mr. Hume's three specimens with the type of *B. affinis*, or whether Mr. Blanford accepted the correctness of the identification at second hand. Will Mr. Blanford kindly investigate the history of the specimen he alludes to as being Mr. Blyth's type of *B. affinis*? Mr. Blyth described the species from a Malaccan skin obtained through Mr. Frith in 1847. If my own personal knowledge of *B. javensis*, apud Blyth (dating back, and continued since, some thirty years), and if the published descriptions and remarks of Mr. Blyth did not irresistibly oblige me to doubt the authenticity of the specimen Mr. Blanford (as described by him) accepts as the type of *B. affinis*, I would refrain from asking him to take the trouble of re-examining it. If it be the type specimen of *B. affinis*, what is *B. javensis*, apud Blyth, ex Malacca? for neither *B. javensis*, Horsf., nor its ally, *Podargus cornutus*, Temm., occur in Malacca, so far as is at present known.

Mr. Blanford further states his opinion that *B. punctatus*, Hume, is distinct from *B. moniliger*, Layard. Specimens of a species of *Batrachostomus*, from Travancore, are identified by Mr. Hume with *B. moniliger*, a species described from a Ceylon example, while *B. punctatus*, Hume, ex Ceylon, is assumed not to belong to *B. moniliger*, but to be a new species. Four phases of *B. moniliger* are represented in my series of *Batrachostomi* ex Ceylon; and one of the phases, that assumed by the almost adult male, agrees, feather for feather, with
Ibis, 1877, p. 392. Mr. Hume's detailed description. Mr. Hume's single example and type was obtained from Mr. H. Nevill; so were some of my specimens, and another from Malabar is in the British Museum. Yet Mr. Hume remarks, "I do not think that the learned editor in question should have so positively asserted what he had no means of verifying" (Str. F. 1876, p. 377). If Mr. Bourdillon's Travancore examples specifically differ from the Ceylon *B. moniliger*, they, not the Ceylon bird, require a new title; but the male, as described by Mr. Hume, but slightly differs from a Ceylon male of *B. moniliger* in my collection. I trust, Sirs, whether my argument appears to you convincing or not, that it will enable my fellow Members of the B. O. U., and whose favourable opinion I prize, to judge of the scientific value of the criticism contained in the following reckless passage Mr. Hume has ventured to print (*l. c.*):—"It does seem a pity that such very erroneous assertions [that *B. castaneus*=*B. affinis*, and that *B. punctatus*=*B. moniliger*] "should be put forward so authoritatively without the remotest apparent grounds." Is it uncharitable to suggest that "grounds" which may not be apparent to Mr. Hume may yet be self-evident to any ornithologist who takes the trouble to acquire the rudiments of the subject on which he professes to instruct others?

I remain yours,

Chislehurst, May 16, 1877.

TWEEDDALE.

P.S.—Mr. Blanford (*l. c.*) mentions a specimen of an adult (*B.* sp.) in Mr. Hume's possession, ex Sikkim, "closely agreeing in general coloration with the figure of *Otothrix hodgsoni*," as being "marked female." Is this the same example alluded to by Mr. Hume (*op. cit.* ii. p. 349), the only one of his four "noted as a female, with a note of interrogation," by its collector, Mr. W. Mason? If it is not, we have some evidence of dimorphism in *B. affinis.* If it be the same individual, the note of interrogation must have escaped Mr. Blanford's attention.—T.

Description of four new Species of Birds from the Indian Region. By ARTHUR, Marquis of TWEEDDALE, F.R.S. [From the 'Annals and Magazine of Natural History,' ser. 4, vol. xx., August 1877.]

A. M. N. H. ser. 4, vol. xx. p. 94.

MEGALURUS RUFICEPS, sp. n.

♀. Lower surface white, faintly tinged with cream-colour on the breast. Flanks pale earthy brown. Under tail-coverts pale dingy isabelline rufous; thigh-coverts of a more decided rufous. Space before the eye and supercilium, passing well behind the eye, greyish white. Forehead, head, and nape pure bright uniform rufous. Back olive-grey, each feather broadly centred by a longitudinal stripe of brown. Uropygium and upper tail-coverts uniform olive-grey. The base of the long and lax uropygial feathers pure dark grey, the tips only being olive-grey. Rectrices above dull ruddy brown, obsoletely barred with narrow brown lines. Quills brown, externally margined with ferruginous olive. Lesser wing-coverts olive-grey; greater tinged with ferruginous.

A. M. N. H. ser. 4, vol. xx. p. 95.

Wing 2·75 inches, tail 5·25, tarsus 1·0, culmen 0·56.

Obtained by Mr. A. H. Everett at Monte Alban and at San Mateo, in Luzon, during February. Only one example has the sex noted on the label; but as the dimensions of the other individual coincide, it is probably also a female, the dimensions of the males in this genus exceeding those of the females.

NILTAVA LEUCURA, sp. n.

♂. Crown and nape blue, glossed with pale lazuline, most conspicuous on the forehead and supercilium. Lores and narial plumes black. Back, uropygium, and upper tail-coverts dead lazuline blue. Chin, throat, and breast grey, washed with lazuline blue, which shades into white on the abdomen. Ventral region and under tail-coverts pure white. Flanks bluish ash. Quills brown, margined above with dark blue. Wing-coverts like the head. Wing-lining and axillaries grey. Outer pair of rectrices brown, pure white at the base; next two pairs with the outer webs brown, washed with blue, the base of each and nearly the whole of the inner webs pure white; the fourth pair brown on the inner web and with three fourths of the basal part of the outer web pure white; fifth pair brown, washed with blue on the outer webs; middle pair blue. Bill black; legs light brown.

Wing 3·50 inches, tail 3·0, tarsus 0·87, culmen 0·62.

Obtained by Mr. Limborg at Ta-oo, 5000 feet elevation, in Tenasserim.

DICÆUM XANTHOPYGIUM, sp. n.

♂. Above, cheeks, and wing-coverts dark bluish slate-grey. An isolated dorsal patch crimson. Uropygium yellow. Chin, throat, and upper part of breast yellow. Remainder of breast, abdomen, and flanks orange. Ventral region, thigh-coverts, and under tail-coverts yellow tinged with green. Rectrices and quills dark brown; the primaries narrowly margined with white, the secondaries with olive-green.

A. M. N. H. ser. 4, vol. xx. p. 96. Wing 1·96 inch, tail 1·06, tarsus 0·50, culmen 0·38.

Discovered by Mr. A. H. Everett at Monte Alban, in Luzon.

OXYCERCA EVERETTI, sp. n.

♂ and ♀. Chin and throat dark brown; breast, flanks, and thigh-coverts warm nutmeg-brown. Abdomen and vent pure white, some of the lower breast-feathers being marked with brown, and some of the flank-feathers being white on their inner webs, brown on their outer, and with white shafts. Under tail-coverts very dark brown or black. Above, wings, and coverts brown, each feather, except the frontal and upper tail-coverts, having a conspicuous pure white central line along the shaft, very prominent on the wing-coverts. Some of the upper tail-coverts tipped with ochre. Rectrices brown, the middle pair broadly margined, the laterals less so, with yellow and greyish yellow. Inner edges of the quills pale rufous seen from underneath.

Wing 1·87 inch, tail 1·75, tarsus 0·56, culmen 0·38.

Several examples of this species were obtained by Mr. A. H. Everett at Monte Alban and San Mateo, in Luzon. The sexes do not differ in plumage. A representative form of *O. leucogaster*.

Ibis, 1877, p. 451.

Note on the Pellorneum tickelli *of Blyth.* By ARTHUR, Marquis of TWEEDDALE, M.B.O.U.

[From 'The Ibis,' October 1877, Plates X. & XI. *in orig.*]

SINCE I addressed a letter relating to this species to the Editors of 'The Ibis' on the 26th of April (Ibis, 1877, p. 385)*, I have received from Tenasserim specimens of true *Pellorneum tickelli*, obtained at Meetan by Mr. Limborg. These have been compared by Lieut.-Col. Godwin-Austen with Blyth's type, still extant in the Calcutta Museum, and identified by him as belonging to Blyth's species. These examples enable me to state that Blyth's identification of *P. tickelli* with *P. subochraceum*, Swinhoe (B. of Burma, no. 359), is erroneous. I am unable even to class Ibis, 1877, p. 452. *P. tickelli* under the genus *Pellorneum*, although in his original description (J. A. S. B. 1859, p. 414) Blyth described it as being a typical *Pellorneum* in structure. It seems to me to fall more nearly under the genus *Drymocataphus*. On comparing the type of *Drymocataphus fulvus*, Walden (Ann. & Mag. N. H. ser. 4, xv. p. 401)†, with true *P. tickelli*, I find that my species cannot be specifically separated. And I observe that Mr. Hume (Str. Feath. 1877, p. 59) expresses an almost confident opinion that *D. fulvus*, Walden, = *Trichostoma minus*, Hume, in which case *T. minus* will also become a synonym of *D. tickelli*, and not, as I had suggested (Blyth, B. Burma, no. 366), of *Trichostoma abbotti*.

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* [*Anteà*, p. 414.—ED.]

† [*Anteà*, p. 504.—ED.]

The figure (Plate X. *in orig.*) of *Pellorneum subochraceum*, Swinh., = *Pellorneum minus*, Hume, is taken from an example obtained by Lieutenant Wardlaw Ramsay on the Karen hills; and examples of this species collected by Mr. Limborg above Meetan do not differ.

The figures of *Drymocataphus tickelli* (Plate XI. f. 1, *in orig.*) and of *Trichostoma abbotti* (Plate XI. f. 2, *in orig.*) are from Tenasserim examples, obtained by Mr. Limborg.

Letter on the plates of Ægithina viridissima *and* Prinia rafflesi, *in* 'THE IBIS,' *from the* Marquis of TWEEDDALE *to the* EDITORS *of* 'THE IBIS' (October 1877).

Ibis, 1877, p. 487.

SIRS,—Permit me, in the cause of scientific exactness, to remark that the artist has coloured the crissum of *Ægithina viridissima* ♂ (Ibis, 1877, pl. v.) green instead of bright yellow, and that he has made the subdued brown marks on the under surface of the rectrices of *Prinia rafflesi* (*ib.* pl. vi. f. 1) terminal instead of subterminal.

Yours, &c.,

Chislehurst, July 7, 1877.

TWEEDDALE.

Letter on Horeites sericea, Alcippe magnirostris, *and some Birds described by Mr. Hume, from the* Marquis of TWEEDDALE *to the* EDITORS *of* 'THE IBIS' (October 1877).

Ibis, 1877, p. 487.

SIRS,—In the April number of 'Stray Feathers' for this year (p. 57, note), Mr. Hume remarks that *Horeites sericea*, Walden (Blyth, B. Burma, no. 392), from the Karen hills, is uncommonly close to *Phylloscopus pallidipes*, Blanford (J. A. S. B. 1872, pt. ii. p. 162, t. vii. f. 1). Since describing *H. sericea* I have been able to compare it with Sikhim examples, marked *P. pallidipes*, Blanf.; and I find that the two birds are identical. The widely erroneous generic position assigned to his species by Mr. Blanford is my only excuse for being guilty of the offence of bestowing a fresh title on a previously described and admittedly good species. Mr. Hume also observes (*t. c.* p. 60) that *Alcippe magnirostris*, Walden, from the Karen hills (*t. c.* no. 369) is *A. phayrei*, Blyth (J. A. S. B. 1845, p. 601). Mr. Blyth may have been in error when he identified (B. Burma, no. 368) *A. phayrei* with *A. nipalensis*; but I am unable for the moment to decide whether *A. magnirostris* is the same as the Arracan species, my collection being packed up.

Ibis, 1877, p. 488.

Besides several birds to which are given distinctive titles in this number, by Mr. Hume, "if really new," or "if considered distinct," &c., *Æthopyga sanguinipectus*, Walden (Ann. & Mag.

N. H. ser. 4, xv. p. 400 *, 1875, & B. Burma, no. 494), receives the additional title of *Æ. waldeni*; and a bird well known to ornithologists, certainly to all those who consult the ordinary sources of reference before proceeding to give a new title, *Turdus sibiricus*, Pallas (1776), finds a place among the "if really new" novelties, and in its old age receives the title of *Turdulus davisoni*, Hume. Mr. Davison lately obtained it in Tenasserim, whence I also have received it from Mr. Limborg, labelled "*davisoni*, Hume." In March 1874, Mr. Wardlaw Ramsay found it in Karen-nee, as already mentioned by me (Blyth, B. Burma, no. 252) and by Mr. Dresser (in his 'Birds of Europe'). In the last-named work it is well figured, as it had already been in Gould's 'Birds of Europe,' and again in his 'Birds of Great Britain,' as likewise by Schlegel in the 'Fauna Japonica.'

Yours, &c.,

Chislehurst, July 17, 1877. TWEEDDALE.

P.Z.S. 1877, p. 686. *Contributions to the Ornithology of the Philippines.*—No. I. *On the Collection made by Mr. A. H. Everett in the Island of Luzon.* By ARTHUR, Marquis of TWEEDDALE, F.R.S., President of the Society. [From the 'Proceedings of the Zoological Society of London,' read November 6, 1877 †, Plates LXXII. & LXXIII. *in. orig.*]

MR. EVERETT, so favourably known as an able, energetic and zealous field-naturalist, and as one of the foremost explorers of the fauna of Borneo, arrived in the Island of Luzon in the beginning of this year, and, after overcoming the official difficulties which sometimes obstruct scientific investigations in the Philippine Islands, commenced collecting zoological specimens at Monte Alban and San Mateo, stations not far from Manilla. Among other objects Mr. Everett secured some 361 specimens of birds in part of the month of January, in February, and in the beginning of March, 1877. These he has kindly consigned to me; and I propose to give an account of them, adding in each instance the original notes on the labels made by Mr. Everett. Eighty-five species are represented in the collection; and although the neighbourhood of Manilla might with justice be considered as having been exhausted by former collectors, Mr. Everett has discovered three undescribed species, besides adding many more to the already known Luzon, and a few to the Philippine avifauna.

P.Z.S. 1877, p. 687. In my memoir on the Birds inhabiting the Philippine Archipelago ‡ I enumerated 218 species. This number must be diminished by one, *Circus æruginosus*, Mr. H. Cuming's Philippine specimen, catalogued under that title by Mr. Sharpe (Cat. Accipitres B. Mus. p. 71), my only authority, being now considered by Mr. Sharpe to be *C. spilonotus*, jr. (see Ibis, 1876, p. 31). Further I have reason to doubt the Philippine habitat of so-called *Crateropus caudatus* (no. 97). To the net total of 216 species Mr. Sharpe has been able to add some 66 species, for the most part obtained by Dr. Steere*. This total is partly arrived at by including 23 species from the island of Palawan, 4 from that of Balabac, and 4 from the Sooloo Islands. In a footnote (*t. c.* p. 126) [*ant.* p. 294] I excluded the Sooloo archipelago from the Philippine area; and as we have only the evidence of four known Sooloo species of birds to guide us, I am disinclined as yet to concur in Mr. Sharpe's opinion that these islands ought to be included. Nor am I quite certain that Palawan and still more Balabac should not be excluded. That Palawan certainly is a border region, intervening between Borneo and the Philippine Islands, is made evident by Dr. Steere's remarkable discoveries; but the Malayan character of its ornis overpowers the Philippine element; and until its fauna and that of the Sooloo Islands shall have been more completely investigated, I purpose to exclude them from what I consider to be the strictly Philippine area. Deducting, therefore, the 23 Palawan, the 4 Balabac, and the 4 Sooloo species (not known in the Philippine archipelago as restricted by me) from Mr. Sharpe's list (*t. c.* p. 350), in all we have a total of 35 purely Philippine birds added by Dr. Steere to my amended number of 216, making 251 in all. The naturalists of the 'Challenger' Expedition added 11 more (see my paper, P. Z. S. 1877, p. 537 [*ant.* p. 459]), making an amended total of 262 Philippine species; and to this number Mr. Everett has enabled me to add 6 from Luzon, namely three new species,

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* [*Anteà*, p. 414.—ED.]

† [Published April 1, 1878.—ED.]

‡ Trans. Zool. Soc. 1875, ix. pp. 125–252 [*anteà*, pp. 293–413].

Megalurus ruficeps, *Dicæum xanthopygium*, *Oxycerca everetti*,

two not hitherto recorded,

Motacilla ocularis, *Anthus maculatus*,

and one previously supposed to be a Malayan species,

Turnix fasciatus.

So 268 species of birds may at this date be considered the total number known to occur in the Philippine Islands, exclusive of Palawan, Balabac, and the Sooloos.

In the Table showing the geographical distribution of the Philippine birds (*t. c.* pp. 249, 252) [*ant.* pp. 410–413] I enumerated 57 the exact habitat of which had not been established. From this, one species (the so-called *Crateropus caudatus*) must be deducted. Mr. Sharpe has been able most satisfactorily to reduce the number by 8 (*t. c.* p. 308); and Mr. Everett's discoveries enable me to still further diminish the number by 9.

P.Z.S. 1877, p. 688.

Philippine species of which the exact habitat has been determined by Mr. Everett:—

Caprimulgus griseatus.
Calliope camtschatkensis.
Phylloscopus borealis (olim *magnirostris*).
Orthotomus derbianus.
Parus elegans.
Geopelia striata.
Turnix ocellata.
Hypotænidia philippensis.
Ardetta cinnamomea.

So the precise habitats of only 39 species now remain undetermined.

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* Sharpe, Trans. Linn. Soc. ser. 2, Zool. i. p. 307. The number is less by two than Mr. Sharpe's estimate (*t. c.* p. 308), in consequence of my not being able to recognize *Chysocolaptes maculiceps*, Sharpe, as being distinct from *C. lucidus* (Scop.), and *Hirundo rustica* of the Islands as differing from *H. gutturalis*. *Brachyurus propinquus*, Sharpe, ex Mindanao, does not appear to be distinct from *Erythropitta erythrogastra*, ex Luzon, though the Balabac type may be different. Perhaps the Zebu *Cyornis*, *C. banyumas* of my list (no. 84), may have to be added as constituting a distinct species; for it appears to differ specifically from *C. philippinensis*, Sharpe, ex Luzon and Panay.

The total number of species known to be resident in the island of Luzon I estimated (*t. c.*) at 133 *; but Mr. Sharpe has correctly pointed out that Cataguan, which I had treated as a separate island, forms, in reality, part of the island of Luzon. *Puffinus leucomelas*, which I recorded from there, must be added to the number of Luzon birds; and to this Mr. Sharpe adds *Zeocephus rufus* and *Penelopides panini* †, obtained by Mr. Cuming at Cataguan, and *Erythropitta erythrogastra*, on the faith of a Manilla example so labelled in Mr. Gould's collection. To this amended total of 137 Luzon species Mr. Everett has enabled me to add the 9 species already removed above from the general Philippine list, the 3 undescribed species and the 3 other species new to the fauna above mentioned, besides the following 8 residents of other Philippine islands:—

Eudynamis mindanensis.
Lanius nasutus.
Lalage dominica.
Hirundo gutturalis.
Copsychus mindanensis.
Corydalla lugubris.
Arachnechthra jugularis.
Rhynchæa capensis.

The exact total of known Luzon residents will therefore now amount to 160.

1. Prioniturus discurus (2) ‡.

[Monte Alban. *a*, ♂: iris brown; bill lead-grey; feet bluish grey; nails dark grey. *b*, ♂: iris chocolate-brown; bill lead-grey; feet bluish grey; claws dark grey.]

A series of seven male examples, shot in February, is sent by Mr. Everett, all being in bright green plumage without a trace of blue on the head. The elongated naked shafts of the middle pair of rectrices greatly vary in length, some being only half an inch, others two inches in length. In two examples these feathers are prolonged for about half an inch, but the shafts are webbed.

P.Z.S. 1877, p. 689. 2. Cyclopsitta lunulata (4).

[San Mateo. ♂: iris dark brown; bill black, base pale lead-grey; feet greenish grey; nails dark grey.]

The male example is in full dress and in *P.-loxia* plumage. The female has a few verditer-blue chin-, chest-, and throat-plumes, and some of the rump-feathers obscurely lunated—seemingly an immature specimen.

3. Microhierax erythrogenys.

Hierax erythrogenys (10).

[Monte Alban. ♀: iris brown; bill black; feet dull bluish; claws black.]

Obtained in February. In black and white dress; and as Mr. Everett has ascertained the sex to be female, it would seem that the *erythrogenys* plumage is significant of nonage and not of sex.

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* Conf. Sharpe, *t. c.* p. 309.

† Is it not *P. manillæ*?

‡ The numbers following the titles are the same as those of my memoir (*t. c.*).

4. Spilornis holospilus (16).

[Monte Alban. *a*, ♂: iris golden-yellow; bill dark grey; orbital skin and lores bright yellow-green; cere ditto; claws black; legs yellow.

San Mateo. *b*, ♀: iris golden-yellow; bill dark plumbeous; orbital skin and lores bright greenish-yellow; cere ditto, but greener; legs light chrome-yellow; claws black.]

5. Haliastur intermedius (17).

[San Mateo. ♂ *juv.*: iris warm brown; bill greenish-lead, cere darker; feet greenish yellow, almost white.]

6. Butastur indicus (20).

[San Mateo. *a*, ♂: iris golden yellow; bill chrome-yellow at the base, rest black; cere chrome; legs dull chrome-yellow; claws black. *b*, ♂: iris bright yellow; cere chrome-yellow; bill black; legs dull chrome; claws black.]

7. Thriponax javensis (28).

[Monte Alban. ♂: bill black; feet and claws lead-grey.]

8. Chrysocolaptes hæmatribon (30).

[San Mateo. *a*, ♂: iris Indian red; bill greenish black; feet pale dull greenish; claws very dark grey.

Monte Alban. *b*, ♂: iris deep crimson; bill greenish black; feet greenish grey.]

9. Yungipicus maculatus (33).

[Monte Alban. *a*, ♂: iris brown; bill black; legs greenish. *b*, ♀: iris light brown; bill lead-grey; legs greenish lead-grey.]

Sonnerat's type was obtained in Panay; but these Luzon individuals agree well with his description. He mentions that his example "n'a point de rouge," but that perhaps he had only seen a female. The male sent by Mr. Everett possesses a crimson tuft springing from behind the eye. The species is nearly allied to *Y. fuscoalbidus*, Salvad., ex Java, Sumatra, and Malacca, but is larger, has a more powerful bill, has the white markings on the tertiaries transversely linear rather than rounded, and has the white gular feathers terminated by brown spots. P.Z.S. 1877, p. 690.

10. Merops philippinus (35).

[San Mateo. *a*, ♂: iris blood-red; bill black; feet purple-brown. *b*, ♂: iris crimson; bill black; feet light greenish. *c*, ♀: iris blood-red; bill black; legs purple-brown; claws black. *d*, ♀: iris blood-red; bill black; feet sooty brown; claws black.

Monte Alban. *e*, ♀: iris crimson; bill black; nails ditto; legs greenish.]

A series of seven examples, all obtained in the month of February.

11. Merops bicolor (36).

[Monte Alban. ♂: bill black; legs purplish-brown.]

12. Eurystomus orientalis (37).

[San Mateo. ♂: iris brown; bill orange-red; feet coral-red; claws black.]

13. Alcedo bengalensis (38).

[Monte Alban. *a*, ♂: iris brown; feet scarlet; claws sienna-brown; bill black.]
Identical with Bengal examples.

14. Entomobia gularis (44).

[San Mateo. *a*, ♂: iris dark brown; bill and legs coral-red; claws sepia-brown. *b*, ♂: iris dark brown; bill and legs coral-red; claws dark brown. *c*: a frog in the gizzard, *d*, ♂: iris chocolate; bill and feet coral-red.

Monte Alban. *e*, ♂: iris dark brown; bill bright red; feet coral-red; nails very dark brown. *f*, ♂: iris dark brown; bill bright red; feet coral-red.]

The plumage of the two sexes does not differ.

15. Sauropatis chloris (47).

[Monte Alban. ♀: iris and feet dark brown; bill black, lower half whitish.]

16. Actenoides lindsayi (49).

[Monte Alban. *a*, ♂: iris brown; bill black, the mandible and culmen yellow; legs light green. *b*, ♀: iris brown; upper half of beak black, culmen and lower half chrome-yellow; feet light green, claws horn-yellow.]

17. Xantholæma hæmacephala (50).

[Monte Alban. ♂: iris dark hazel-brown; orbital skin crimson; bill black; legs and feet coral-red; nails greyish black.]

18. Caprimulgus griseatus (56).

P.Z.S. 1877, p. 691.

[San Mateo. *a*, ♂: iris dark brown; tip of bill ditto; legs light purple-brown; nails black. *b*, ♂: iris dark chocolate; feet purple-grey.]

Seen from above, this Nightjar is difficult to distinguish from five examples of *C. affinis*, ex Lombock. Underneath it conspicuously differs in having the ventral plumage and the thigh-coverts transversely banded with narrow brown lines, instead of being uniform pale rufo-fulvous. The two outer pairs of rectrices in *C. affinis* are throughout pure white; in these examples of *C. griseatus* the inner webs of the basal third are pale ferruginous banded with brown.

♂. Wing 6·37 inches, tail 4·0, middle toe 0·75.

19. Cacomantis merulinus (57).

[San Mateo. *a*, ♂: iris yellow?; beak very dark brown; feet dirty ochreous; claws black. *b*, ♂: iris pale reddish; legs light chrome-yellow; claws black. *c*, ♂: iris pale reddish; bill black; legs ochreous yellow; nails black; interior of gape red.]

20. Eudynamis mindanensis (61).

[Monte Alban. ♂: iris crimson; bill greyish-green; legs dark lead-grey; nails black.]

21. Dasylophus superciliosus (62).

[Monte Alban. *a*, ♂: iris pure chrome-yellow; orbital skin and base of beak fiery orange; bill pale green; legs greenish chrome; claws dark grey. *b*, ♀: iris chrome-yellow; orbital skin orange; bill pale green, deep orange at base; legs yellow, tinged green on tarsus; nails grey.]

Sexes alike.

22. Lepidogrammus cumingi (63).

[Monte Alban. *a*, ♂: iris crimson; orbital patch ditto; bill horn-yellow; legs grey. *b*, ♂: iris and orbital skin crimson; bill horn-yellow; legs and feet light grey. *c*, ♂: iris and orbital skin crimson; bill horn-yellow; legs dark lead-grey. *d*, ♀; iris and orbital skin crimson; bill horn-yellow; legs and feet grey.]

Sexes alike.

23. Centrococcyx viridis (64).

[Monte Alban. *a*, ♂: iris crimson; bill black; legs dark lead-grey. *b*, ♂ *juv.*: iris crimson; bill and claws black; legs darkest shade of lead-grey,

San Mateo. *c*, ♀: iris bright crimson; bill black; legs lead-grey; claws grey-brown. *d*, ♀ *juv.*: iris brown; legs dark grey; beak lead-colour.]

Mr. Everett sends a series of seven individuals, four in adult and three in immature plumage. The dimensions of the male and female are alike; and this is the case in a larger series obtained by Dr. B. Meyer (*l. c.*). Count Salvadori (Ucc. Borneo, p. 70) has united the larger *C. affinis* (Horsf.) with the smaller *C. javanensis* (Dumont), on the ground that they respectively represent the two sexes of the same species. If this is correct, *C. affinis* is an exception to the rule of equality in size which prevails among all the other known Asiatic species of this genus. Moreover Bernstein has shown that the two Javan birds differ in their anatomical structure (*conf.* Walden, Trans. Zool. Soc. viii. pp. 56, 60) [*anteà*, pp. 158, 162].

P.Z.S.1877, p. 692.

24. Buceros hydrocorax (66).

[Monte Alban. ♂: iris red; bill red; nails dull black; orbital skin yellow; feet brownish red.]

The whole of the back and shoulders of the two examples obtained by Mr. Everett are smeared with an olive-yellow powder, seemingly taken from the oil-glands at the root of the tail. Mr. Elliot (Monogr. Bucerotidæ, pt. ii.) countenances the erroneous statement of the older authors that this Hornbill also inhabits the Moluccas.

25. Penelopides manillæ (69).

[Monte Alban. ♂: iris crimson; orbital skin and base of mandible white; bill dark brown; the casque transparent horn-brown; the oblique bars on the maxilla ochre-yellow; feet and nails dull black; fruit in the gizzard.]

Mr. Sharpe (*t. c.* p. 309) identifies a Cataguan example of this genus in the British Museum with *P. panini*. If the identification and locality are correct, both species inhabit the island of Luzon.

26. LANIUS NASUTUS (70).

[San Mateo. *a*, ♂: iris orange-brown; bill, legs, and nails black. *b*, ♂: iris pale orange-brown; bill, legs, and claws black. *c*, ♀: iris warm brown; bill and legs black.]

The four examples sent by Mr. Everett are in mature plumage. They are difficult to separate from the grey-backed form of India, *L. nigriceps*. The only apparent difference is, that in the Luzon bird the rufous of the uropygium and upper tail-coverts is not so bright, and that the grey on the back extends lower down. Dimensions about equal.

27. LANIUS LUCIONENSIS (72).

[San Mateo. *a*, ♂: iris dark-brown; bill purplish leaden; legs dark bluish grey; claws black. *b*, ♂: iris dark brown; bill purplish leaden; legs bluish; claws dark brown. *c*, ♀: iris dark brown; legs dark lead; claws black; bill purplish brown.]

The two examples marked ♀ have the cheek-stripe brown, not black; and the pectoral feathers and upper tail-coverts are edged with brown.

28. ARTAMUS LEUCORHYNCHUS (73).

[San Mateo. *a*, ♂: iris dark brown; bill whitish blue, tipped black; legs darkest lead-grey. *b*, ♂: iris chocolate; bill pale bluish; feet and claws black. *c*, ♂: iris dark brown; bill pale bluish-grey, tipped black; legs darkest lead-grey; claws black. *d*, ♀: iris dark brown; bill pale whitish blue, tip black; legs dark leaden.]

P.Z.S. 1877, p. 693.

29. GRAUCALUS STRIATUS (74).

[Monte Alban. *a*, ♂: iris pale lemon-yellow; bill, legs, and claws black.
San Mateo. *b*, ♂: iris pure lemon-yellow; bill, legs, and claws black.]
Two examples in uniform plumbeous plumage.

30. VOLVOCIVORA ? CÆRULESCENS (75).

[Monte Alban. ♂: iris dark brown; bill, legs, and claws jet-black.]
In full jet-black plumage.

31. LALAGE DOMINICA (76).

[San Mateo. *a*, ♂: iris dark brown; bill black. *b*, ♀: iris dark brown; bill and nails black; legs blackish-grey. *c*, ♀: iris dark brown; legs plumbeous.]

32. DICRURUS BALICASSIUS (80).

[Monte Alban. *a*, ♂: iris crimson; bills, legs, and nails black. *b*, ♀: iris crimson; bill, legs, and claws black.]

33. Philentoma cyaniceps (82).

[Monte Alban. *a*, ♂: iris rich dark brown; bill black; legs purplish brown. *b*, ♂: iris crimson; bill black; legs and feet brown.]

34. Leucocerca nigritorquis (83).

[San Mateo. ♂: iris very dark brown; legs black; claws black.]

35. Cyornis philippinensis.

Cyornis philippinensis, Sharpe, *t. c.* p. 325.
Cyornis banyumas (84 partim) [*anteà*, p. 347].

[Monte Alban. ♂: iris dark chocolate-brown; bill black; legs light brown.]

Five examples of a species of the genus *Cyornis* obtained at Monte Alban by Mr. Everett are distinguishable from *C. banyumas*, ex Java, by having the abdomen, vent, and under tail-coverts white and not rufous, and the rufous of the breast paler. Above no difference is discernible. A Zebu bird collected by Dr. B. Meyer (*t. c.* no. 84) differs from the Luzon in being of a darker shade of blue above, especially on the head, and in having the frontal and superciliary feathers and the wing-coverts darker blue. The Luzon examples are not separable from the type of *C. philippinensis* in the British Museum.

36. Hypothymis azurea (85).

[Monte Alban. *a*, ♂: iris chocolate-brown; bill blue, tip black; interior of gape pale yellow-green; legs lead-blue; nails black. *b*, ♂: iris dark brown; bill blue, tip black; legs lead-blue; nails black. *c*, ♂: iris dark brown; bill blackish blue; legs lead-blue. *d*, ♀: iris dark chocolate-brown; bill and nails black; legs dark grey.]

37. Butalis manillensis (86)?

P.Z.S. 1877, p. 694.

[Monte Alban. ♂: iris dark brown; legs and claws black; bill dark vandyke brown, nearly black.]

A single example of a species of grey Flycatcher is sent by Mr. Everett, which, while resembling *B. griseosticta*, Swinh., still cannot be said to belong to that species. It is a larger bird with a wing measuring 3·56. The bill is narrower and longer, more like that of *B. grisola*. Above the plumage is of a paler purer grey and not grey-brown. The wing-lining and axillaries are grey rather than pale rufous. With doubt I refer this bird to *B. manillensis*, Bp.; for he states that the Manilla race is smaller than *B. grisola*, while this Luzon bird exceeds the European species in its dimensions. Mr. Sharpe (*t. c.* p. 326) identifies an example obtained in Panay by Dr. Steere with *B. griseosticta* *.

38. Hirundo gutturalis (88).

[San Mateo. *a*, ♂: iris and feet dark brown. *b*, ♀: iris brown; bill, feet, and nails black.]

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* Since these remarks were in print, I have had the advantage of perusing M. Oustalet's observations on the type specimen of *B. manillensis*, Bp., in the Paris Museum (Ois. de la Chine, p. 123), whereby it appears that that gentleman is also of opinion that *B. manillensis* is distinct from *B. griseosticta*.

39. Broderipus acrorhynchus (90).

[San Mateo. *a*, ♂: iris pale purplish-brown; bill dull pale crimson; legs dark lead-grey; claws black. *b*, ♂: iris white; bill dull pale crimson; feet bluish-lead; claws black. *c*, ♂: iris yellow; bill pale dull crimson; feet dark grey. *d*, ♂: iris purple-grey, outer ring white; bill pale crimson; legs lead-grey. *e*, ♀: iris purple-grey; bill dull pale crimson; legs lead-grey.

Monte Alban. *f*, ♂: iris purple-grey; bill white, tinged crimson; legs lead-grey; claws blackish.]

Ten adult examples were obtained by Mr. Everett, seven males and three females. All the males have the middle pairs of rectrices jet-black, tipped with yellow. The same feathers in the females are washed with yellow; and the body-plumage is not of so golden a tint.

40. Megalurus palustris (96).

[San Mateo. ♂: iris orange-brown; bill black; mandible lead-grey; legs horn-brown; claws dark ditto.]

Identical with individuals from Burma, Assam, Sylhet, Munipur, &c.; but I have not been able to compare it with typical examples. The Bengal (Philippine?) example, described by Pucheran (Archives du Mus. vii. p. 342) as being one of the types of *Gracula caudata*, Cuvier, must belong to this bird and not to the *Timalia chataræa*, Frankl., of India; and, judging from Pucheran's remarks, the Javan bird, *Malurus marginalis*, Reinw. (=*Megalurus palustris*, Horsf.), although very close, appears to differ from the Indian bird. There is good reason to doubt the
P.Z.S.1877, p. 695. occurrence of *Timalia chataræa*, Frankl. (= *Gracula caudata*, Cuv., apud Blyth), in the Philippines. Both Jerdon and Blyth appear to have been misled into identifying Franklin's bird with the Cuvieran type by some remarks of Lafresnaye's (Mag. Zool. 1st series, *Timalia*). Lafresnaye gave Franklin's diagnosis (P. Z. S. 1830–31, p. 118) and wrote that *T. chataræa* "nous a paru être le même oiseau que celui intitulé au Musée, *Gracula caudata* (Cuvier)." Lafresnaye described a bird in his collection and identified it with the type in the Paris Museum (said to have been obtained in Bengal by Dussumier in October 1820, but having, when Pucheran examined it, "Manilla" written on its label). And Lafresnaye's description (*l. c.*), and certainly Pucheran's of the type (already alluded to), will not apply to Franklin's bird. Blyth (Ibis, 1867, p. 6), in the belief that *T. chataræa*, Franklin,=*G. caudata*, Cuvier, mentioned, on Pucheran's authority, that it was found in the Philippines; and I inadvertently gave Franklin's species a place in my list of Philippine birds (*t. c.* no 97), although I stated that Indian authors seemed to have been somewhat hasty in identifying *T. chataræa* with *G. caudata*, Cuvier. *T. chataræa* may, for the present, be safely eliminated from our lists of the Philippine fauna.

41. Megalurus ruficeps. (Plate LXXII. *in orig.*)

Megalurus ruficeps, Tweeddale, Ann. & Mag. N. H. ser. 4, vol. xx. p. 94 (1877)*.

♀. Lower surface white, faintly tinged with cream-colour on the breast. Flanks pale earthy brown. Under tail-coverts pale dingy isabelline rufous; thigh-coverts of a more decided rufous. Space before the eye and supercilium, passing well behind the eye, greyish white. Forehead, head, and nape pure bright uniform rufous. Back olive-grey, each feather broadly centred by a longitudinal stripe of brown. Uropygium and upper tail-coverts uniform olive-grey. The base of the long and lax uropygial feathers pure dark grey, the tips only being olive-grey. Rectrices above dull ruddy brown, obsoletely barred with narrow brown lines. Quills brown, externally margined with ferruginous olive. Lesser wing-coverts olive-grey; greater tinged with ferruginous.

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* [*Anteà*, p. 509.—Ed.]

Wing 2·75 inches, tail 5·25, tarsus 1·0, culmen 0·56.

[Monte Alban. ♀: light clay-brown; bill brown, lower half grey; legs and feet whitish.]

42. Ixus goiavier (99).

[Monte Alban. *a*, ♂: iris bright brown; bill black; legs dark brown. *b*, ♂: bill, legs, and nails black. *c*, ♀: bill and legs black; iris brown.

San Mateo. *d*, ♀: iris dark brown; bill black; legs dark grey, almost black.]

All Mr. Everett's specimens (a series of eight) of this species have the ear-coverts dark brown, the only character apparently which separates it from *I. analis*. The plumage of the two sexes does not differ.

43. Hypsipetes philippinensis (102).

P.Z.S.1877, p. 696.

[San Mateo. *a*, ♂: iris burnt-sienna brown; bill black; legs dark sepia-brown. *b*, ♀: iris burnt-sienna brown; bill black; legs dark plumbeous.

Monte Alban. *c*, ♂: iris burnt-sienna brown; bill black; legs and nails blackish grey.]

44. Monticola solitarius (103).

[Monte Alban. *a*, ♂: iris chocolate; bill, legs, and claws black. *b*, ♂: iris dark brown; bill and nails black; legs blackish brown.]

Lower breast and abdomen almost pure dark rufous, a few of the blue and rufous feathers with albescent tips. Above with albescent tips and subterminal black marks.

45. Pratincola caprata (104).

[Monte Alban. ♀: iris dark brown; bill, legs, and claws black.]

46. Copsychus mindanensis (106).

[San Mateo. *a*, ♂: iris chocolate; bill, legs, and claws black. *b*, ♂: iris dark brown; bill black; legs and claws very dark brown.

Monte Alban. *d*, ♀: iris chocolate-brown.]

The adult female is dark glossy bluish-grey above. The chin, cheeks, throat, and breast a purer dead grey. The white of the abdomen somewhat sullied with rufescent.

47. Corydalla lugubris (117).

[San Mateo. *a*, ♂: iris dark chocolate-brown; bill vandyke brown, lower half yellowish; legs ochreous yellow; claws pale grey-brown. *b*, ♀: ?iris dark chocolate; bill sepia-brown; mandible yellow-brown; legs and feet brownish ochre-yellow; claws pale brown.]

48. Anthus maculatus.

Anthus arboreus, var. *japonicus*, Schlegel, Faun. Jap. pp. 58, 139, t. xxiii., "Japan" (1842).

Anthus maculatus, Hodgs. Gray's Zool. Misc. p. 83 (1844); Blyth, J. A. S. B. 1847, p. 433; conf. Brooks, Str. F. 1876, p. 278.

Dendromanthus maculatus (Hodgs.), Blyth, Cat. Calc. Mus. p. 135. no. 753.

Pipastes agilis (Sykes), Gould, B. of As. pt. xvii. t. — (April 1, 1865).

Pipastes maculatus (Hodgs.), Blyth, B. Burm. no. 224.

[Monte Alban. ♂, shot on the ground in the forest.]

49. Parus elegans.

Machlolophus elegans (118).

[Monte Alban. ♂: iris dark brown; bill black; legs grey.]

This is a true *Parus* and not a *Machlolophus* as was suggested by Mr. Blyth.

P.Z.S.1877, p. 697. 50. Calliope camtschatkensis (107).

[Monte Alban. ♂: iris dark brown; bill black, grey at base; legs and feet purplish grey.]

51. Phylloscopus borealis.

Phyllopneuste borealis, Blasius, Naumannia, 1858, p. 313.

Phylloscopus magnirostris, Blyth, apud Blyth, Ibis, 1870, p. 168; Walden, *t. c.* no. 109.

[Monte Alban. *a*, ♂: iris brown; maxilla dark brown; mandible yellow; legs and claws pale clear brown.

San Mateo. *b*, ♂: iris dark brown; legs raw-sienna brown; maxilla dark horn-brown; mandible horn-yellow. *c*, ♀: iris brown; legs yellow-brown; bill brown; lower half yellow.]

As I anticipated (*t. c.*), the *Phylloscopus* from the Philippines, identified by Mr. Blyth with *P. magnirostris*, proves to belong to *P. borealis*. Four examples were obtained by Mr. Everett, in the month of February. The first alar bar is almost obsolete; but Mr. Dresser has no doubt that they belong to *P. borealis*, and they agree well with my own series of that species.

52. Orthotomus derbianus (112).

[Monte Alban. *a*, ♂: iris bright clay-brown; bill sepia; the mandible pale grey; legs and nails pale clear brown. *b*, ♂: iris bright clay-brown; bill dark brown; mandible grey; legs very pale transparent brown.]

Moore accurately described this species of *Orthotomus*; but in the figure the wings are coloured of too vivid a green. The wings are yellow-green.

53. Budytes viridis (114).

[Monte Alban in February.]

54. Calobates melanope (115).

[Monte Alban. *a*, ♂: iris brown; bill light vandyke brown; legs and feet pale transparent brown; nails vandyke brown. *b*, ♀: iris brown; bill dark lead-grey; legs pale transparent brownish grey. *c*, ♀: iris brown; bill dark brownish grey; legs very pale clear brown; claws vandyke.]

Average length of rectrices in five examples, 3·87.

55. Motacilla ocularis.

Motacilla ocularis, Swinhoe, Ibis, 1860, p. 55; P. Z. S. 1870, pp. 129, 130, woodcuts.

[Monte Alban. ♀, March: iris, bill, and legs dark brown.]

A single example with a grey back, a few dark feathers on the vertex, and a black pectoral plastron; forehead and a broad space over the eye white; a line passing from base of bill through the eye black.

56. Dicæum rubriventer.

P.Z.S. 1877, p. 698.

Pipra papuensis, Gm. S. N. i. p. 1004. no. 21 (1788).

Dicæum rubriventer, Lesson, Tr. p. 303 (1831).

Dicæum retrocinctum, Gould, B. As. xxvii. t. —, inf.; Walden, *t. c.* no. 120. partim; conf. Salvadori, Ann. Mus. Civ. Genoa, viii. p. 509.

[Monte Alban. ♂: iris bright brown; bill glossy black; legs and nails dark brown.]

Not to be distinguished from Zebu examples.

57. Dicæum xanthopygium. (Plate LXXIII. fig. 1, *in orig.*)

Dicæum xanthopygium, Tweeddale, Ann. & M. N. H. ser. 4, vol. xx. p. 96 (1877)*.

♂. Above, cheeks and wing-coverts dark bluish slate-grey. An isolated dorsal patch crimson. Uropygium yellow. Chin, throat, and upper part of breast yellow. Remainder of breast, abdomen, and flanks orange. Ventral region, thigh-coverts, and under tail-coverts yellow tinged with green. Rectrices and quills dark brown; the primaries narrowly margined with white, the secondaries with olive-green.

Wing 1·96 inch, tail 1·06, tarsus 0·50, culmen 0·38.

[Monte Alban. ♂: iris dark brown; legs dark greyish-brown; bill black.]

This is a second Philippine representative form of *D. trigonostigma*, and, as an example of progress in the variation of a species, is interesting. It, together with *D. dorsale*, Sharpe, and the Malayan species form a small subgroup, the Luzon bird being hardly distinguishable from *D. trigonostigma*, as seen from above, and from the Panay species when seen from below. Is the Negros habitat of *D. trigonostigma* of Mr. Sharpe's list (*t. c.* p. 352. no. 171) reliable?

58. Myzanthe pygmæa (121).

[Monte Alban. *a*, ♂: iris dark brown; bill and legs black. *b*, ♂: testes greatly enlarged.]

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* [*Anted*, p. 510.—Ed.]

59. Arachnechthra jugularis (123).

[Monte Alban. ♂: iris light brown; bill, legs, and nails jet-black.]

60. Corvus philippinus (125).

[San Mateo. *a*, ♂: iris dark brown; bill and legs black. *b*, ♀: iris pale wood-brown; bill, legs, and claws black.]

Three of the four examples sent by Mr. Everett have the wing an inch and a quarter to a half shorter than that of the fourth individual. This last is in full glossy purple-black plumage, while the three with short wings are in a state of transition from brownish unglossed black to purple-black. They belong to *C. brevipennis*, Schlegel.

61. Acridotheres cristatellus (126).

[Monte Alban. *a*, ♂: iris yellow; bill pale yellowish; legs dark brownish ochre-yellow; nails black.

P.Z.S.1877, p. 699. San Mateo. *b*, ♂: iris golden yellow; bill yellow-white; legs chrome; claws horn-brown. *c*, ♀: iris Indian yellow; bill light greenish-yellow; legs dull orange; claws brown.]

62. Sarcops calvus (129).

[Monte Alban. *a*, ♂: iris bright brown; bill and legs black; bare skin white tinged with pink.

San Mateo. *b*, ♂: iris rich chocolate-brown; bill, legs, and claws black. *c*, ♀: iris rich warm brown; bill black; feet and claws sooty brown; bare skin white tinged dull crimson.]

63. Munia jagori (132).

[San Mateo. ♀: iris red-brown; bill pale bluish-grey; legs darker grey.]

64. Oxycerca jagori (134).

[San Mateo. ♂: ?, iris Indian red; bill dull blue; legs blue-grey.]

65. Oxycerca everetti. (Plate LXXIII. fig. 2, *in orig.*)

Oxycerca everetti, Tweeddale, Ann. & Mag. N. H. ser. 4, vol. xx. p. 96 (1877)*.

♂ and ♀. Chin and throat dark brown; breast, flanks, and thigh-coverts warm nutmeg-brown. Abdomen and vent pure white, some of the lower breast-feathers being marked with brown, and some of the flank-feathers being white on their inner webs, brown on their outer, and with white shafts. Under tail-coverts very dark brown or black. Above, wings and coverts brown, each feather, except the frontal and upper tail-coverts, having a conspicuous pure white central line along the shaft, very prominent on the wing-coverts; some of the upper tail coverts tipped with ochre. Rectrices brown, the middle pair broadly margined, the laterals less so, with yellow and greyish yellow. Inner edges of the quills pale rufous seen from underneath.

Wing 1·87 inch, tail 1·75, tarsus 0·56, culmen 0·38.

[Monte Alban. *a*, ♂: iris Indian red; bill black; mandible lead-grey; legs dark grey. *h*, ♀: iris Indian red; bill black; mandible and legs grey.]

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* [*Anteà*, p. 510.—Ed.]

This is a representative form of *Munia leucogastra*, Blyth, but quite distinct, being of a warm nutmeg-brown colour, and not dark sooty-brown, and having the white striæ of the upper plumage much more boldly defined.

66. Osmotreron axillaris (136).

[Monte Alban. *a*, ♂: iris bluish green; feet greyish green; nails grey; bill light green, base dark red. *b*, ♀: iris pale sea-green; bill green; base of maxilla red; feet whitish green; nails grey. *c*, ♀: iris light bluish-green; bill green; base of maxilla red; feet greyish green; nails grey.]

67. Phabotreron leucotis (140).

[San Mateo. *a*, ♀: iris grey: bill black; feet dull crimson; claws brown. *b*, ♀: iris purplish-grey; bill black; orbital skin dull bluish; feet dull crimson. *c*, ♀: iris purplish grey; bill black; feet crimson; nails horn-grey. P.Z.S. 1877, p. 700.

Monte Alban. *d*, ♂: iris purple-grey; bill black; feet bright carmine; claws brown. *e*, ♂: iris brown; bill black; feet carmine.]

68. Turtur dussumieri (147).

[Monte Alban. *a*, ♂ *juv.*: iris dark ochre-yellow; bill greyish black; feet dull crimson. *b*, ♂ *juv.*: iris dark ochre-yellow; bill greyish-black; legs purple-brown. *c*, ♂, pairing: iris ochreous orange; bill greyish-black; feet dull crimson. *d*, ♀: iris brownish orange; bill black; nails brown; feet carmine; paddy and maize in the crop.]

The example marked a ♀ differs from the males, and agrees with the description given (*l. c.*) of a female ex Luzon obtained by Dr. B. Meyer. Two of the males are immature, the nuchal band not being completed, and all traces of the vinous colouring of the nape being wanting.

69. Phlogœnas luzonica (149).

[Monte Alban. *a*, ♂: iris greyish violet; bill black; legs dull crimson; nails grey. *b*, ♀: iris light greenish-brown; bill black; legs carmine. *c*, ♀: iris pale greyish-violet; bill greyish black; feet dull crimson; nails dark grey.]

The female is slightly smaller; and the pinkish-red colouring of the abdomen is much deeper in the male.

70. Chalcophaps indica (150).

[San Mateo. *a*, ♂: iris dark brown; legs dull crimson; bill orange-red.

Monte Alban. *b*, ♀: iris dark brown; bill orange-red; feet dull crimson. *c*, ♂: iris chocolate-brown; bill orange-red, base crimson; feet dull crimson.]

71. Geopelia striata (152).

[San Mateo. *a*, ♂: iris white; bill dull bluish; orbital skin white tinged blue; legs dull crimson. *b*, ♀: iris white; legs dull purple; bill dull blue; orbital skin ultramarine. *c*, ♀: iris whitish-yellow; bill blue, almost black; legs dull crimson; orbital skin pale ultramarine.]

These examples in no respect differ from Malaccan and Javan individuals and others from the island of Madura. Neither by their dimensions nor colouring can the sexes be distinguished.

72. TURNIX OCELLATA (156).

[Monte Alban. *a*, ♂: iris yellowish white; bill greenish; legs greenish-yellow; nails grey. *b*, ♀: iris pale yellow; bill light greenish-yellow; legs the same. *c*, ♀: iris white; bill grey tinged greenish; legs light yellow; nails grey.]

P.Z.S.1877, p. 701. A very fine species. The female is fairly depicted by Meyen; the male, besides being much smaller, differs in having the throat almost white, each feather being but slightly tipped with brown.

	Wing.	Tarsus.	Culmen.
♂	3·87	1·00	0·75
♀	4·25	1·06	0·81

73. TURNIX FASCIATA.

Hemipodius fasciatus, Temm., Pig. & Gallin. iii. pp. 634, 757, "Philippines" (1815); Walden, *t. c.* p. 225.

[Monte Alban. *a*, ♂: iris white; bill blackish, base yellow; legs light greenish-yellow. *b*, ♂: iris white; bill greenish yellow; culmen black; legs and feet light greenish-yellow; nails grey. *c*, ♂: iris white; bill greenish yellow; legs yellowish green; nails brown. *d*, ♀: iris ochreous yellow; bill and legs yellow tinged green, the bill clouded with blackish green. *e*, ♀: iris white; bill greenish chrome, the culmen clouded; legs greenish chrome.]

Mr. Everett has sent six specimens of a species of *Turnix* which agree well with Temminck's description. They are at once distinguishable from *T. pugnax*, ex Java, by the uniform broad light rufous patch on the nape, and by being much smaller, but otherwise are nearly allied. The abdomen in both sexes is white. From *T. rostrata* they differ still more.

	Wing.	Tarsus.	Culmen.
♂	3·00	0·87	0·50
♀	3·25	0·93	0·60

74. CHARADRIUS FULVUS (159).

[San Mateo. *a*, ♂: iris chocolate-brown; bill black; legs pale lead-grey. *b*, ♀: iris brown; legs light lead-grey.]

75. ÆGIALITIS DUBIA (162).

[Monte Alban. *a*, ♂: iris warm chocolate-brown; orbital ring pure orange; bill black, base orange; legs grey; nails black. *b*, ♂: iris brown; bill black; legs ochreous yellow; nails black. *c*, ♀: iris dark brown; bill black, base yellowish; legs purplish grey; breeding. *d*, ♀: iris dark brown; bill and nails black; legs ochreous yellow.]

Seven examples, in various stages of plumage, of what is undoubtedly typical *Æ. dubia* (Scop.) have been sent by Mr. Everett. A comparison made with these Luzon individuals and others of so-called *Æ. curonica* (Gm.) and *Æ. minuta* (Pall.), apud Jerd., from Europe and Asia (*conf.* Walden, Tr. Z. S. viii. p. 89), leaves me no other conclusion than that they all belong to one species. In dimensions examples vary considerably; but intermediate links occur uniting the smaller with the larger races. In markings and colouring there is little difference, and the proportionate length of the tertiaries to the first primary is very variable in birds even from the same locality. The species described by Mr. Blyth (Ibis, 1867, p. 164, no. 849) as *Æ. philippensis*, vera, is *Æ. peronii* (Temm.).

Dimensions.

P.Z.S. 1877
p. 702.

	Wing.	Tarsus.	Bill.	
	in.	in.	in.	
1. Luzon, Feb. ♂	4·37	0·95	0·75	Full dress: tertiaries shorter than 1st primary.
2. ,, ,, ,, ...	4·37	0·95	0·75	Not quite full dress: tertiaries equal to 1st primary.
3. ,, ,, ,, ...	4·50	0·88	0·68	Immature: tertiaries nearly equal to 1st primary.
4. ,, ,, ,, ...	4·37	0·93	0·75	Immature: tertiaries equal to 1st primary.
5. ,, ,, ♀	4·25	0·95	0·75	Full dress: identical with No. 1; tertiaries worn, nearly equal to 1st primary. "Breeding."
6. ,, ,, ,, ...	4·25	0·95	0·82	Ditto.
7. ,, ,, ,, ...	4·25	0·82	0·75	Immature: tertiaries equal to 1st primary.

76. Gallinula chloropus (169).

[Monte Alban. ♂: iris bright blood-red; bill bright greenish-yellow; legs and feet grass-green.]

77. Amaurornis olivacea (176).

[Monte Alban. *a*, ♂: iris bright blood-red; bill dark green; feet and legs yellow-brown. *b*, ♀: iris bright blood-red; bill light green; legs and feet light brown.]

78. Hypotænidia torquata (177).

[Monte Alban. *a*, ♂: iris bright blood-red; bill black; feet and legs brown. *b*, ♀: iris bright Indian-red; bill black; legs sepia-brown. *c*, ♀: iris bright red; bill black; legs very dark lead-grey.]

The sexes do not differ in their dimensions or plumage. The pectoral band appears when the bird is reaching maturity. The black-barred pectoral feathers become first suffused with olive-green or with rufous, the black and white bands showing through. These bars then become obliterated and the feathers become uniform olive-green, dashed with dark rufous. Ultimately the pectoral band becomes uniform chocolate-brown.

79. Hypotænidia philippensis (178).

[Monte Alban. ♂: iris Indian red; bill warm brown; legs, feet, claws light greyish-brown. February.]

The specimens sent by Mr. Everett, three males, are typical. In all, the black bands of the breast and abdomen are not very decidedly pronounced, though well marked on the flanks. In two the pectoral band is just indicated by the tips of some of the feathers being tinged with pale rusty fulvous. In the third the white bands are coloured with rusty fulvous, but the black bands

P.Z.S.1877, p. 703. show through. In the example which has the pectoral band least developed the nape is most rufous, and this is the case in a Celebean individual without a trace of a pectoral band, the nape being pure bright rufous, and in others from Queensland. The dimensions of birds from all three localities hardly vary.

80. Rhyacophilus glareola (182).

Shot in February and March.

81. Tringoides hypoleucus (183).

[Monte Alban. *a*, ♂: iris brown; bill dark vandyke brown; legs greenish grey; nails black. *b*, ♂: iris brown; bill and nails black; legs greenish lead-grey.]

Shot in February and March.

82. Gallinago scolopacina (187).

[Monte Alban. *a*, ♂, February: iris brown; legs greenish grey; nails black.]

83. Rhynchæa capensis (189).

[Monte Alban. ♂, February.]

84. Ardetta cinnamomea (192).

[San Mateo. *a*, ♂ (adult): iris bright yellow; legs and feet bright olive-green; bill yellow shaded with olive-brown on the culmen; February. *b*, ♂ (not mature): iris bright yellow; bill greenish yellow, culmen to apex darkened with greenish brown; legs yellow-green; soles of feet yellow; claws light brown. *c*, ♀ (immature): iris golden yellow; legs and feet bright olive-green; bill greenish-yellow at base; culmen dark olive-brown; February.]

85. Herodias garzetta (195).

[Monte Alban. ♀, March: iris bright yellow; bill black, base yellow; legs black; feet greenish-yellow dotted with black; claws dark brown.]

Two examples are sent by Mr. Everett shot in March, and both marked ♀. One is in full breeding-plumage with two long occipital plumes, a fully developed pectoral tuft, and a long dorsal train. In the other these appendages are absent, the bill being black in both. In dimensions they agree; and they belong strictly to the race named *Ardea nigripes* by Temminck.

Wing 10·25 inches, tarsus 3·50, culmen 3·0.

86. Butorides javanica (197).

[Monte Alban. ♀: iris golden; bill black; lower half, cere, and orbital skin light yellow; legs green; soles orange; nails brown. March.]

Immature.

Contributions to the Ornithology of the Philippines.—No. II. *On the Collection made by Mr. A. H. Everett in the Island of Zebu.* By Arthur, Marquis of Tweeddale, F.R.S., President of the Society. [From the 'Proceedings of the Zoological Society of London,' read November 20, 1877 *, Plates LXXVI.–LXXVIII. *in orig.*]

P.Z.S. 1877, p. 755.

In the month of March last Mr. Everett, with the intention of extending his exploration of the Philippines, quitted Luzon †, and proceeded to the island of Zebu, where he remained during April and the first few days of May engaged in collecting zoological specimens. Since 1872, when Zebu was visited for the first time by a zoological collector (Dr. A. B. Meyer ‡, who then obtained eighteen species of birds), only two parties of naturalists (Dr. Steere and those attached to the 'Challenger' Expedition) have landed there; and they increased the number of known Zebu species to twenty-three. Of the important collection made by Mr. Everett during the few weeks he remained on the island I now propose to offer an account. Most of the birds collected in March were obtained by him near some coal-mines situated about 12 miles to the north of the port of Zebu, and some 6 miles inland. Mr. Everett writes, "The station is not very favourable for birds as compared with Luzon. Both the species and the number of individual birds seem less numerous . . . . *Tanygnathus luzonensis* and *Cacatua hæmaturopygia* are very abundant here, both flying wild in flocks. I saw neither of these birds in the neighbourhood of Manila. I am told of another Cockatoo, similar to *C. hæmaturopygia*, but with a red splash on the breast; but I have been unable to secure a specimen."

The birds collected in April were, I presume, obtained in the vicinity of the port of Zebu itself. Mr. Everett expresses himself dissatisfied with the results of his labours in the island, an attack of fever having confined him for some time to the house. Notwithstanding this, he has very considerably extended our knowledge of the avifauna of Zebu, having succeeded in securing 282 specimens of birds, representing 75 species.

When Mr. Everett commenced his researches in Zebu, only 23 § species of birds had been recorded as being inhabitants of that island. Yet he was able during the short period of his stay to add 54 species to our lists of its avifauna. These 54 species include 6 hitherto undescribed, viz.:—

Oriolus assimilis.
Phyllornis flavipennis.
Zosterops everetti.
Prionochilus quadricolor.
Turnix nigrescens.
Megapodius pusillus.

Two known species, though new to the Philippine fauna—

Hirundo javanica, *Rallina eurizonoides,*

P.Z.S. 1877, p. 756.

and two typical Indo-Malayan genera are added to the Philippine area, as restricted by me ||—

Phyllornis, *Prionochilus.*

The known species of Zebu birds therefore now number 78, of which no less than 75 are

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* [Published April 1, 1878.—Ed.]

† P.Z.S. 1877, p. 686 [*anteà*, p. 512].

‡ Trans. Zool. Soc. ix. p. 125 [*anteà*, p. 293].

§ 18 given in my memoir (*l. c.*), 1 obtained by Dr. Steere (Sharpe, Tr. L. S. ser. 2, Zool. i. p. 309), and 4 by the 'Challenger' Expedition (P.Z.S. 1877, p. 538) [*anteà*, p. 462]. I enumerated (*l. c.*) only 3 additional Zebu species, having through an oversight omitted *Numenius phæopus.*

|| P.Z.S. 1877, p. 687 [*anteà*, p. 513].

represented in Mr. Everett's collection. The grand total of species inhabiting the Philippine area (as restricted by me, *l. c.*) Mr. Everett has increased by 8, and it now amounts to 276. Several of the species discovered by Mr. Everett in Zebu possess a peculiar interest. Such are:—*Oriolus assimilis*, a representative form of the remarkable *O. steerei* of Negros and Basilan[*]; *Xantholæma rosea*, hitherto, beyond Java and Sumatra, only known from Negros; *Dicrurus mirabilis*, *Æthopyga magnifica*, *Anthothreptes chlorogastra*, *Dendrophila œnochlamys*, all four hitherto only known from Negros, but which reappear in Zebu. Four Passerine species, of which the only previously known habitat was Luzon—*Volvocivora* (?) *cærulescens*, *Parus elegans*, *Oxycerca everetti*, and *Megalurus ruficeps*—have their range extended to Zebu.

1. Cacatua hæmaturopygia (1)[†].

[Cebu, male, March, "pairing." Iris dull carmine, bill light lead-grey, feet and nails dark lead-grey. *b.* Female, March, "breeding." Orbital skin white, rest as in male.]

Another example of a female is marked "breeding in April." The dimensions of the male somewhat exceed those of the female.

2. Prioniturus discurus (2).

The crown of the head in six examples of both sexes, belonging to a series of seven obtained in April, is bright verditer-blue. In the seventh the blue crown is less distinct. The elongated spatulate shafts of the middle rectrices vary in length in each specimen. The plumage of the two sexes is alike.

3. Tanygnathus luzonensis (3).

[Cebu, female, April, "pairing." Iris, outer ring yellowish white, inner ring yellow-brown; maxilla scarlet, tip yellow; mandible orange, tip yellow; feet dirty greenish, nails dark grey.]

Not to be distinguished from Luzon, Negros, and Guimaras examples. The "pairing" male has the forehead verditer-green, the crown and nape verditer-green, each feather tipped with turquoise-blue. The cheeks are green; and there is no blue on the back or uropygium. Females (sex ascertained by Mr. Everett) are somewhat smaller, but in plumage and colouring do not differ from males.

P.Z.S.1877, p. 757.

4. Loriculus chrysonotus (8).

[Cebu, male, April. Iris brown, bill orange-red, legs orange, nails brown.]

5. Microhierax erythrogenys (10).

A single example (female) is in the collection, shot in April, and in full black and white plumage. The wing measures 4·87.

6. Spilornis holospilus (16).

[Cebu, male, March. Iris deep golden yellow, orbital skin yellow, cere the same, but tinged with green; bill leaden grey, culmen and tip black; legs and feet dirty light yellow, the feet darkest, claws black. *b*. Female. Iris green-yellow, orbital and loral regions bright yellow, with a slight green tinge; cere dull greenish, bill lead-grey, tip and culmen black; legs and feet dirty light yellow, claws black.]

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[*] The Basilan form will probably prove to be a third representative species.

[†] The numbers following the titles are the same as those of my Memoir, Trans. Zool. Soc. ix. pp. 125–252 [*anteà*, pp. 293–413].

7. HALIASTUR INTERMEDIUS (17).

[Cebu, male and female, April. Iris warm chocolate, bill grey tinged greenish yellow; cere light chrome, legs and feet light yellow, nails black. *b*. Female, April, "breeding." *c*. Immature. Iris cold brown, bill black, legs and feet light green-yellow, claws black.]

The immature bird is in brown and tawny dress, without any traces of white or deep chestnut.

8. ELANUS HYPOLEUCUS (18).

[Cebu, male, March. Iris crimson, cere greenish yellow, gape yellow, bill black, feet light chrome, nails black. Snake and small mammal in the gizzard.]

Mr. Gurney has been good enough to compare this example with the type.

9. BUTASTUR INDICUS (20).

[Cebu, female, March. Iris golden yellow, bill black, cere and base of bill deep chestnut, legs deep chrome-yellow, claws black.]

10. SCELOSTRIX CANDIDA (27).

[Cebu, male, April. Iris dark brown, bill white, nails dark brown-grey.]

11. MEROPS BICOLOR (36).

[Cebu, male, April. Iris crimson, bill black, feet brown.]

In a series of ten examples, male and female, there is no trace of green mingled with the bright chestnut of the head, nape, and upper back. An example of a female ("breeding, April") is not distinguished from examples of adult males.

12. EURYSTOMUS ORIENTALIS (37).

Coracias orientalis, Linn. S. N. i. p. 154.

13. ALCEDO BENGALENSIS (38). P.Z.S.1877, p. 758.

[Cebu, male, March.]

14. ENTOMOBIA GULARIS (44).

15. SAUROPATIS CHLORIS (47).

[Cebu, male, March. Iris brown, bill black, feet dark brown.]

16. XANTHOLÆMA ROSEA (51).

[Cebu, male, April. Iris hazel-brown, bill black, legs and feet coral-red.]

Identical with Javan, Sumatran (Lampong), and Negros individuals. Two examples, marked female by Mr. Everett, have many of the throat-feathers yellow, tipped with red. They are probably immature birds. This species is but a developed form of *X. hæmacephala*, the only distinction between the two being that the yellow eye-patches and the yellow throat of that species are blood-red in *X. rosea*. Their distribution is curious; for while *X. hæmacephala* occurs throughout the continent of India and the Indo-Chinese peninsula, and on the Philippine island of Luzon, *X. rosea* is restricted to Java and the two Philippine islands of Negros and Cebu, while Sumatra, again, is inhabited by both species.

17. MACROPTERYX COMATUS (52).

[Cebu, female, March.]

18. CENTROCOCCYX VIRIDIS (64).

[Cebu, female, April, "pairing." Iris crimson.]

19. LANIUS NASUTUS (70).

[Cebu, female, March, "breeding." Iris brown, bill and legs black.]

A numerous series of the Philippine black-headed Shrike in full dress, obtained in Cebu by Mr. Everett, together with my Luzon series, enables me, after comparison made with *Lanius nigriceps* (as restricted *l. c.*) of India, to assert the specific identity of the two species. The generality of the Philippine birds have the uropygium of a paler, more tawny ferruginous hue than Bengal (Rognathpoor) and Goomsoor examples; the grey tint descends lower down the back; and the ferruginous colouring of the flanks and under tail-coverts is of a paler, more dilute, shade. Still one Cebu individual is not to be distinguished from an adult Bengal individual in this or any other respect. Philippine birds exceed somewhat in dimensions. Adult Tonghoo birds belong more nearly to *L. tricolor*; but I have not as yet met with either Pegu, Assam, or Darjeeling examples in which the deep uniform ferruginous dorsal colouring of *L. tricolor* runs up and joins the black of the nape, as in Nepal individuals.

The examples of females marked "breeding" by Mr. Everett have the head and nape dark ashy brown, rather than black.

P.Z.S. 1877, p. 759.

20. LANIUS LUCIONENSIS (72).

[Cebu, male, March and April; female, March.]

21. ARTAMUS LEUCORHYNCHUS (73).

22. GRAUCALUS STRIATUS (74).

[Cebu, male, April. Iris fine deep crimson; bill, feet, and nails black. *b*. Female. Iris light claret-red.]

These Zebu birds do not differ from Luzon and Negros examples. Two, in dark plumbeous-grey plumage without pale edgings to any of the feathers, are marked male; two, dark plumbeous-grey above and banded with black on the whole under surface, are respectively noted as being male and female; a fifth example, uniform grey with the exception of the breast, abdomen, and crissum, which are banded with black, is marked male. The last example appears fully adult, and perhaps represents the dress of the adult female.

23. Volvocivora? cærulescens (75).

[Cebu, male, April. Iris dark brown, bill and legs black. *b.* Female, April, breeding, the same.]

Three males and as many females are in the collection. One of the males is in the pure black plumage of the adult; the other two have the black shaded with plumbeous. The females are dark plumbeous-grey, with darker margins to the dorsal plumes: one, an immature bird, has some of the secondary quills and some of the coverts margined with white. From the breeding female being in a plumbeous dress, we may infer that each sex in this species wears a peculiar adult garb. Luzon individuals do not differ from Zebu examples.

24. Lalage dominica (76).

[Cebu, male, April. Iris brown.]

25. Dicrurus mirabilis (81).

[Cebu, male, April. Iris crimson; bill and feet black.]

The dimensions of the single example obtained are somewhat smaller than those of typical individuals. Not hitherto recorded from Zebu.

26. Leucocerca nigritorquis (83).

[Cebu, male and female, March. Iris brown, bill and legs black.]

27. Cyornis philippinensis.

"*Cyornis banyumas* (Horsf.)," Walden, *l. c.* no. 84 (*nec* Horsf.). [*Anteà*, p. 347.]

Cyornis philippinensis, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 325.

[Cebu, male, April.]

The blue plumage of this single example is not of quite so dark a shade as that of Dr. B. Meyer's specimen (*l. c.*). Yet it is perceptibly darker than that of Luzon and Panay individuals. The length of the wings and tail is also slightly greater; but without a larger series for comparison it is best to retain it under the title cited.

28. Hypothymis azurea (85). P.Z.S. 1877, p. 760.

29. Hirundo javanica.

Hirundo javanica, Sparrman, Mus. Carls. t. 100.

[Cebu, male, April.]

New to the Philippines.

30. Broderipus acrorhynchus (90).

Oriolus acrorhynchus, Vigors, P. Z. S. 1831, p. 97.

Oriolus chinensis, Linn., apud Sharpe, B. M. Cat. Birds, iii. p. 203. no. 12, nec Linn.

Mr. Sharpe has recently (*l. c.*) adopted the Linnean title *chinensis* for this purely Philippine species, for the reason that that title is "undoubtedly referable to the Oriole of the Philippines" (*l. c.* p. 197, *note*). Linnæus gave the name to Brisson's *Loriot de la Cochinchine* (Orn. ii. p. 326); and Brisson states that the subjects of his description were brought to Réaumur by Poivre from Cochin China. Judging from the description, also, Brisson's bird could not have belonged to the Philippine species; for he describes it as possessing a yellow alar speculum, which the continental form has, and the Philippine bird lacks. After saying that the wing-feathers are black, Brisson adds "quelques-unes des moyennes sont terminées par une petite tache jaunâtre." It is therefore not necessary to adopt so inappropriate a title as *chinensis* for the Philippine Oriole; and the name *O. diffusus*, Sharpe (*l. c.*), for the continental species must be suppressed (*cf.* Walden, Blyth, B. Burma, no. 483). M. Oustalet (Ois. de la Chine, p. 132) correctly identified the Chinese *Broderipus* with the Brissonian species, and adopted the Brissonian title of *cochinsinensis*, but afterwards somewhat hastily accepted Mr. Sharpe's view, and placed that title in the list of errata and addenda.

31. Oriolus assimilis, n. sp. (Plate LXXVI. *in orig.*)

[Cebu, male, March. Iris crimson, bill dull burnt-sienna brown, legs dark lead-grey, nails black.]

Male. Above and under tail-coverts dark greenish yellow; space before the eye, cheeks, ear-coverts, chin, throat, and breast dark grey, the breast being tinged with greenish yellow; abdomen, flanks, and ventral region grey or white, with broad almost black mesial bands; axillaries, under-surface of quills, and under wing-coverts grey; all the quills and major coverts above very dark grey, almost black, each washed with a pale grey on the outer webs, the wing, when closed, appearing dark grey. Tertiaries nearest the body distinctly tinged with greenish yellow. Minor wing-coverts like the back. All the rectrices above dark iron-grey, almost black. Outer pair with a pure yellow small terminal spot or mark at the apex of the inner web; all the others with slight indications of a terminal yellow margin.

Wing 4·87, tail 4·12, tarsus 0·88, culmen 1·25.

P.Z.S. 1877, p. 761. A representative form of *O. steerii*, ex Negros. Mr. Sharpe, who has kindly compared it with the type of *O. steerii* in the British Museum, considers "that it is distinct from the Negros Oriole, and that it differs in having the greater wing-coverts grey and not yellow, and in having the spots on the tail-feathers so very small; the grey on the breast comes much lower down."

32. Megalurus ruficeps.

Megalurus ruficeps, Tweeddale, Ann. & Mag. N. H. ser. 4, vol. xx. p. 94. [*Anteà*, p. 509.]

[Cebu, male, March. Iris dull burnt-sienna brown.]

Identical with the Luzon types. The sexes do not appear to differ in dimensions.

33. Hypsipetes philippinensis (102).

[Cebu, male and female, March. Iris burnt-sienna brown, bill brownish black, legs brown.]

34. Phyllornis flavipennis, n. sp. (Plate LXXVII. fig. 1, *in orig.*)

[Cebu, male, April. Iris hazel, bill lead-grey, yellowish along the margin, legs and feet greenish leaden.]

The colours of the soft parts of the female are noted by Mr. Everett to be like those of the male, excepting that the yellowish commissure is not mentioned.

Male. Grass-green above, pale verditer-green underneath. Lores, chin, throat, and thigh-coverts yellowish green. Primaries brown on their inner webs, tinged with dark green along the shaft; outer webs of first three primaries green tinged with yellow; lower half of the outer webs of remaining primaries margined with yellow. Inner margin of all the quills, seen from below, yellow. The female like the male, but the colouring not altogether so bright.

Wing 3·75, tail 3·50, tarsus 0·80, culmen 0·87.

If the four examples sent by Mr. Everett have the sex correctly noted (of which there is little doubt), and if the males are in mature plumage (and there are no indications of immaturity), the sexes in this species do not essentially differ. There is no trace of any blue in the plumage of the males.

35. Pratincola caprata (104).

[Cebu, male, March and April. Iris brown, bill and legs black.]

36. Copsychus mindanensis (106).

37. Phylloscopus borealis.

Phyllopneuste borealis, Blasius, Naumannia, 1858, p. 313.

Phylloscopus magnirostris, Blyth, Walden, *l. c.* no. 109. [*Anteà*, p. 359.]

[Cebu, male and female, April.]

38. Calobates melanope (115).

[Cebu, male and female, March.]

39. Corydalla lugubris (117). P.Z.S. 1877, p. 762.

[Cebu, male, April. Iris brown, maxilla brown, mandible pale ochreous, legs and feet light ochreous.]

40. Parus elegans (118).

[Cebu, male, April. Iris brown, bill dark, legs and feet lead-blue.]

Not separable from Luzon examples.

41. Dendrophila œnochlamys.

Dendrophila œnochlamys, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 338, t. liii. f. 2 (1876).

[Cebu, male and female, April. Iris orange-yellow, bill greenish yellow.]

The male example has all the rectrices broadly tipped with the vinaceous colour of the breast. In the female the middle pair are throughout blue, while the laterals only exhibit a vinaceous tinge at their apices.

42. Zosterops everetti, n. sp.

[Cebu, male and female, April. Iris light yellow-brown, maxilla blackish, mandible and legs pale grey.]

Male and female.—Above oil-green, darker than in *Z. palpebrosus*, and much darker than in *Z. meyeni* of Luzon. Narrow frontal band and lores, chin, throat, under tail-coverts, and shoulder-edge bright yellow. Below the eye a distinct black mark. Breast and flanks pale but decided iron-grey. Mesial band of abdomen, extending to vent, bright yellow. Rectrices above pale brown washed with oil-green.

Wings 2·06, tail 1·87, tarsus 0·70, culmen 0·50.

This species, closely allied to *Z. lateralis*, is to be distinguished by its green rectrices.

43. Prionochilus quadricolor, n. sp. (Plate LXXVII. fig. 2, *in orig.*)

[Cebu, April. Iris dark brown; legs, bill, and feet glossy black.]

The sex is not stated on the label.

Chin, throat, cheeks, sides of neck, breast, flanks, under wing-coverts, axillaries, abdomen, and under tail-coverts pale greyish silky white, the chin, cheeks, and axillaries being almost pure white. Forehead, sides of head, vertex, and occiput, descending low down the nape, dull black. Interscapulars and back black, broadly tipped with cinnabar-red. Uropygium black with olive-yellow tips to the feathers. Upper tail-coverts, rectrices, and wing-coverts rather glossy bluish black. Quills dark blackish brown.

Wings 2·12, tail 1·25, tarsus 0·50, culmen 0·37.

This is one of the most important additions made by Mr. Everett to the Philippine fauna, adding, as it does, one of the hitherto missing characteristic Malayan genera; for, although
P.Z.S.1877, p. 763. Mr. Sharpe (*t. c.*) includes *Prionochilus* amongst the Philippine genera, it is only on the strength of a Palawan example of the genus.

44. Dicæum rubriventre (120 partim).

Pipra papuensis, Gm. S. N. i. p. 1004.

Dicæum rubriventer, Lesson, Tr. p. 303.

Dicæum retrocinctum, female, Gould, B. As. xxvii. t.—; cf. Salvad. Ann. Mus. Civ. Gen. viii. p. 509.

[Cebu, male, April.]

This example, in the plumage of *D. retrocinctum*, female, apud Gould, is also marked a male, like the one obtained in Cebu by Meyer (*l. c.*) and by Mr. Everett (P. Z. S. 1877, p. 698) [*anteà*, p. 523] in Luzon. Count Salvadori's view (*l. c.*) that it is not the female of *D. retrocinctum*, Gould, but a distinct species, is therefore confirmed. I am further inclined to the opinion that *D. retrocinctum*, if from either island, is from Mindanao and not from Luzon, and that Sonnerat obtained the type of *P. papuensis* in Luzon and not in Mindanao.

45. Dicæum dorsale.

Dicæum dorsale, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 340.

[Cebu, male, April. Iris brown.]

46. Arachnechthra jugularis (123).

[Cebu, male. Iris brown, bill and legs black.]

47. Æthopyga magnifica.

Æthopyga magnifica, Sharpe, 'Nature,' August 1876, p. 297, "Negros;" Tr. L. S. ser. 2, Zool. i. p. 342; Shelley, Cinnyridæ, pt. iii. t.

[Cebu, male, April. Iris brown, bill and legs very dark brown, the mandible dark brown.]

48. Anthothreptes chlorogastra?

Anthreptes chlorogastra, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 342.

[Cebu, male, April.]

A single example of the genus was obtained by Mr. Everett; but as it represents a young male before it has assumed its metallic plumage, it is impossible to identify it with any certainty. One or two violet scapulars are present; and one of the occipital feathers is also violet. In *A. chlorogastra* the head is said to be metallic green.

49. Corvus philippinus (125).

[Cebu, male, March. Iris brown, bill and legs black.]

50. Calornis panayensis (128).

[Cebu, male and female, April. Iris vermilion-red, bill and feet black.]

51. Sarcops calvus (129).

[Cebu, male, April. Iris brown, bare skin dull carmine, bill and legs black.]

P.Z.S.1877, p. 764.

52. Oxycerca everetti.

Oxycerca everetti, Tweeddale, Ann. & Mag. N. Hist. ser. 4, vol. xx. p. 96. [*Anteà*, p. 510.]

[Cebu, male, March. Iris brown, bill black, mandible grey, legs dark grey.]

Not separable from Luzon examples. Sexes alike.

53. Munia jagori (132).

[Cebu, male, March. Iris brown, bill pale grey, legs dark grey.]

In Mr. Everett's examples (male and female) the black mesial band is not confluent with the black of the breast. The species is very similar to *M. rubrinigra*, but has the black on the abdomen more fully developed.

54. Osmotreron vernans (135).

[Cebu, male, April. Iris, inner ring light blue, outer ring light ochreous; bill lead-grey, cere green, feet carmine, nails grey.]

55. Osmotreron axillaris (136).

[Cebu, male, April. Iris light blue-green. *b.* Female. Iris blue-green; bill lead-grey, base dark-red; feet greenish-grey, nails grey.]

In the adult female the cap is pure grey as in male. In the younger female the crown is dingy green.

56. Ramphiculus occipitalis (138).

[Cebu, male and female, April. Iris pale reddish-brown (female light yellow-brown). Basal half of bill vermilion, apical half yellow; feet carmine, nails grey tinged yellow.]

Neither in plumage nor dimensions do the sexes differ. Zebu examples cannot be separated from Luzon individuals.

57. Phabotreron nigrorum.

Phabotreron nigrorum, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 346.

Phabotreron leucotis (Temm.), Walden and Layard, Ibis, 1872, p. 104, ex Negros*.

[Cebu, male and female, April. Iris brown, bill black, legs and feet bright carmine, nails grey.]

The characters whereby Mr. Sharpe separated the Negros form of this genus from the nearly allied *P. leucotis* of Luzon belong also to the Guimaras and the Zebu birds.

58. Carpophaga ænea (141).

[Cebu, male, March. Iris and orbital ring bright crimson, bill lead-grey, feet dull purplish-crimson.]

A series of four Cebu individuals cannot be differentiated from Luzon and Negros specimens.

P.Z.S. 1877, p. 765. 59. Turtur dussumieri (147).

60. Chalcophaps indica (150).

[Cebu, male and female, April. Iris brown, bill orange-red, legs dark red, feet dull carmine.]

61. Turnix nigrescens, n. sp.

[Cebu, female, April. Iris yellowish white, bill chrome-yellow, legs chrome-yellow, feet tinged with green.]

While *T. fasciata* of Luzon chiefly differs from *T. pugnax*, ex Java, in its smaller dimensions and its broad uniform rufous nape, this Zebu bird somewhat exceeds *T. pugnax* in size, and is readily differentiated by the ground-colour of the crown, back, and uropygium being blackish brown instead of rufous. Like *T. fasciata* it also possesses a broad rufous nuchal collar.

* [*Anteà*, p. 121.—Ed.]

	Dimensions.			
	Wing.	Culmen.	Tarsus.	
	in.	in.	in.	
T. pugnax ♀	3·37	0·68	1·06	*ex* Java. Throat black.
,, ,, ♂	3·06	0·62	0·95	
T. fasciata ♀	3·00	0·62	0·83	*ex* Luzon. ,,
,, ,, ♂	2·86	0·50	0·75	
T. nigrescens ♀	3·50	0·75	1·12	*ex* Zebu. ,,
,, ,, ♂	3·12	0·63	0·95	

62. Megapodius pusillus, n. sp. (Plate LXXVIII. *in orig.*)

[Cebu, male, March. Iris dark hazel, bill dark brown, legs very dark brown, nearly black.]

The upper surface rich ruddy yellowish (almost golden) brown. Uropygium and upper tail-coverts and rectrices brown. Chin and throat dirty yellowish brown, the feathers being light grey at their insertion. Neck and upper breast slate-grey tipped with ruddy brown. Lower breast, abdomen, and flanks slate-grey, but faintly washed with ruddy brown. Ventral region paler grey tinged with ochreous brown. Thigh-coverts distinct ruddy, almost rusty, brown. Under tail-coverts dull ashy brown. Primaries uniform brown. Secondaries margined externally with the hue of the back. Tertiaries and wing-coverts like the back. Sides of head and forehead slightly paler than the head.

Wing 6·25, tarsus 1·70, middle toe without claw 1, culmen 0·64.

This small Megapode has the ophthalmic region, throat, and neck densely clothed, and belongs to a type different from *M. cumingi.*

Mr. Sharpe has lately (P. Z. S. 1875, p. 111) separated the Bornean Megapode from the then only known Philippine species, and given the title of *M. lowii* to the Bornean (Labuan) species. That the Philippine and Bornean naked-faced Megapodes differ specifically seems to be established; but it would appear that the Philippine and not the Bornean species requires a new title. Mr. Sharpe proceeds on the assumption that Mr. Dillwyn described from and bestowed the title of *M. cumingi* (P. Z. S. 1851, p. 119, t. xxxix.) on Cuming's Philippine (Manila?) examples. But neither the context nor the descriptions and dimensions, the last on Mr. Sharpe's own showing, appear to support his conclusion. Mr. Dillwyn (*l. c.*) considered the Labuan Megapode to belong to the same species as that sent by Mr. Cuming to the British Museum from the Philippines; and the point of difficulty is whether Mr. Dillwyn described (*l. c.*) his *M. cumingi* from Motley's Bornean examples or from Cuming's Philippine specimens. Mr. Dillwyn described his type as being "blackish slate-colour" below, and he figured the bird (*l. c.*) dark (blackish) slate-colour below. Mr. Sharpe, when differentiating the Bornean from the Philippine Megapode, says (*l. c.*) that the Labuan specimens sent to the British Museum by Mr. Lowe are smaller and darker than the Philippine birds, especially on the breast, which is deep plumbeous grey, whereas in the Philippine bird the under surface is brownish washed with grey. If we compare the dimensions given by Mr. Dillwyn of his type of *M. cumingi* with those given by Mr. Sharpe (*l. c.*) of his *M. lowii* (ex Labuan) and of the Philippine bird, it will be found

P.Z.S.1877, p. 766.

that the principal dimensions of Mr. Dillwyn's type of *M. cumingi* and of Mr. Sharpe's type of *M. lowii* are essentially the same, while the dimensions of the Philippine Megapodes are sensibly larger.

	Total length.	Wing.	Tail.	Tarsus.
	in.	in.	in.	in.
M. cumingi, Dillwyn (*l. c.*)	14·0	8·6	3·0	2·1
M. lowii, Sharpe (*l. c.*), ex Labuan	14·5	8·1	3·1	2·4
M. cumingii, Dillwyn apud Sharpe (*l. c.*), ex Philippines.	16·0	10·0	3·7	2·5

Mr. Sharpe states that the Labuan birds differ from the Philippine in being smaller, and he admits that the plate (*l. c.*) of *M. cumingi* represents the Bornean Megapode, and yet he assumes that Mr. Dillwyn described from Cuming's Philippine individuals. As I first drew attention (Tr. Z. S. ix. p. 225) to the desirability of recomparing the Philippine Megapode with the Bornean *M. cumingi**, and as Mr. Sharpe after making the comparison asserts that they differ specifically, I propose the title of *Megapodius dillwyni* for the Philippine species obtained by Cuming†.

P.Z.S. 1877, p. 767.

63. Charadrius fulvus (159).

[Cebu, male and female, April.]

Two of the male examples are in almost full breeding-plumage, a few only of the chin- and throat-feathers not being black.

64. Gallinula chloropus (169).

[Cebu, female, juv., March. Iris crimson, bill dirty orange-yellow, brown at the base, legs grass-green, nails brown. *b.* Cebu, female, April. Iris crimson, bill light brown, apical portion light greenish, legs green.]

65. Ortygometra cinerea (172).

[Cebu, male, March. Iris crimson, bill greenish brown, legs dull greenish, nails brown. *b.* Cebu, female, March. Iris crimson, maxilla greenish brown, mandible green, legs dull greenish, nails brown.]

66. Rallina euryzonoides.

The Rail, Brown, Illustr. p. 94, t. xxxvii., "Ceylon" (1776).
Gallinula eurizonoides, Lafresn. Rev. Zool. 1845, p. 368.
Rallus zeylanicus, Gm. S. N. i. p. 716. no. 17; Jerdon, B. Ind. iii. p. 725, nec Gm.
Rallus zeylanicus, Gm., *l. c.* auctt. recent. nec Gm.

[Cebu, male, April. Iris brilliant red. *b.* Cebu, female, April. Iris bright brick-red, bill blackish, the base tinged light green, tip greyish, legs dull greenish leaden, feet dark lead-grey, nails grey.]

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* [*Anteà*, p. 388.—Ed.]

† Since I arrived at this conclusion Mr. Dillwyn has kindly written to me to say, respecting the *M. cumingi* described by him in the P. Z. S. (and also in his Nat. Hist. Labuan), the description was from a specimen which he received from Motley from Labuan. Wolf's figure was taken from the same specimen.

The two examples obtained by Mr. Everett do not quite agree with Ceylon and Continental-Indian individuals, inasmuch as the dark banding below appears much blacker, broader, and more decided, and the dorsal colouring is browner. Still, since it is impossible to select any marked characteristic difference, and as this Rail is probably a migrant, as in Ceylon, I refer these Philippine birds to the Indian species. Mr. Blyth was of opinion that the race found in the Philippines was barely distinguishable (Jerd. *l. c.*).

Brown (*l. c.*) described and figured, under the title of *The Rail*, this species from a Ceylonese example obtained by Governor Loten. At p. 96 he also described, and on plate xxxviii. he figured, a distinct bird from the same source under the title of *Rail.* Gmelin (*l. c.*) copied Brown's description of his *Rail*, and bestowed on it the title of *Rallus zeylanicus.* But Gmelin, while correctly quoting p. 96 of the Illustrations, incorrectly referred to plate xxxvii., on which is depicted Brown's *The Rail.* On Brown's description of *The Rail* Gmelin founded no title; but when incorporating the Linnæan species *Rallus capensis* (Mantissa, p. 525) in his edition of the 'Systema' (*l. c.* No. 11) and more or less transcribing the Linnæan diagnosis, he followed Latham (Synop. iii. pt. i. p. 234. no. 8) and referred the Linnæan bird to the one described by Brown at p. 94 as well as to the one figured by Brown on plate xxxviii. Latham made the identification with a note of interrogation. Gmelin in both cases associated the wrong plate with the pages containing Brown's descriptive remarks, and called both species *Rail.* As Gmelin's diagnosis of his *Rallus zeylanicus* does not apply to the ferruginous-breasted Rail of Ceylon, *The Rail* of Brown, we must adopt the next title, that of Lafresnaye. I cannot with certainty identify the bird described and figured by Brown under his title of Rail (*Rallus zeylanicus*, Gm.); but it is apparently a gallinaceous bird—possibly *Galloperdix spadiceus* (Gm.). P.Z.S.1877, p. 768.

67. AMAURORNIS OLIVACEA (176).

[Cebu, male, March. Iris crimson, bill dark green, paler at tip, legs yellow-brown. *b.* Cebu, female, March. Iris crimson, bill grass-green, legs and feet brownish dull yellow.]

68. HYPOTÆNIDIA TORQUATA (177).

[Cebu, male and female, March. Iris crimson, feet and nails lead-grey, bill black.]

The series sent consists of thirteen examples of both sexes, some being from Luzon. In plumage the males do not differ from the females. Every variety occurs in the colouring and extent of the pectoral band, which is dark pure maroon in the full plumage.

69. HYPOTÆNIDIA STRIATA (179).

Hypotænidia obscuriora, Hume, Str. F. 1874 (January), p. 302, "Andamans."

Hypotænidia ferrea, Walden, Ibis, 1874, April, p. 147, "Andamans." [*Anteà*, p. 267.]

[Cebu, male, March. Iris burnt-sienna brown, bill blackish brown, base carmine, legs greyish brown. *b.* Cebu, male, April. Iris Indian red; bill purplish brown, base dull crimson; legs brown.]

These Zebu specimens may be regarded as being typical; and from them Andaman and Rangoon examples cannot be separated; consequently the titles founded on the Andaman race must fall. A recomparison made with Continental-Indian and Malaccan examples does not support my former (*l. c.*) opinion that the Andaman birds specifically differ from Indian and Malaccan; otherwise the Indian race would require a new title.

70. TRINGOIDES HYPOLEUCUS (183).

[Cebu, male, April. Iris brown, bill dark brown, legs light greenish-grey, nails black.]

71. TOTANUS INCANUS.

Scolopax incanus, Gm. S. N. i. p. 658.

[Cebu, female, April. Iris dark brown, bill very dark brown, legs ochreous yellow, nails black.] Wings 6·50. Breeding-dress.

72. GALLINAGO MEGALA (188).

[Cebu, female, April.]

P.Z.S.1877, p. 769. 73. BUTORIDES JAVANICA (197).

[Cebu, March. Iris golden-yellow, orbital and loral regions light green, bill black, base of mandible yellowish, legs and feet dull green, nails grey-black.]

74. NYCTICORAX MANILLENSIS (198).

[Cebu, male, May. Iris golden-yellow, bill brown, mandible dirty yellow, legs light greenish-yellow, nails grey.]

The male of which the soft parts are described above is a young bird. Above the plumage is rich dark brown, each feather centred for its entire length (as on the neck) or for its terminal half (as on the back) with clear ferruginous. Underneath the plumage has the same character; but the ferruginous colour is diluted, and on the breast tawny. The quills are of the same rich dark chestnut colour that prevails in the adult. Chin and throat pure white. The crown of the head is like the neck, and not black as in the adult. Many of the frontal and coronal feathers have prolonged, twisted or partly curled terminal naked shafts of a yellowish albescent colour and over half an inch in length. This occurs in two specimens.

An example (without a label) in almost full dress, has the forehead, crown, and occipital crest black. The remainder of the upper plumage and the exposed surfaces of the wings are rich dark chestnut-rufous, darkest on the interscapular region. The chin and throat pure white, with a few feathers tipped and centred brown. The sides of the head, the sides and front of the neck, upper breast, and flanks pale rufous tawny with broad ruddy-brown margins. Lower breast and abdomen white and tawny-white with the brown margins narrower. Under tail-coverts white, some blotched with creamy rufous. Long axillaries pale pure rufous. Carpal edge pure white. Culmen 2·87 inches, tarsus 3·75, wing 12·75.

The long, pendent, white nuchal plumes are absent, the black tips of which are said to be one of the characters which differentiate *N. manillensis* from *N. caledonicus*. The differences between the two species are otherwise well marked; but Professor Schlegel's opinion that *N. manillensis*=*N. crassirostris*, ex Bonin Ins., requires confirmation.

The bill of this Philippine example is thicker than in *N. caledonicus* (ad. ex Port Albany), measuring in altitude 1 inch as against 0·75.

75. Dendrocygna vagans (203).

[Cebu, male, March. Iris dark brown, bill shining black, legs and feet dark slate-grey. *b.* Cebu, male, April.]

The example shot in March is in almost full plumage, the secondaries being well developed. Most of the breast-feathers have one or two pairs of brown spots. The second example, shot in April, is of smaller dimensions, the secondaries shortened, the breast-plumage uniform.

Contributions to the Ornithology of the Philippines.—No. III. *On the Collection made by Mr. A. H. Everett in the Island of Mindanao.*

By Arthur, Marquis of Tweeddale, F.R.S., President of the Society. [From the 'Proceedings of the Zoological Society of London,' read December 4, 1877, Plates LXXXII.–LXXXV. *in orig.*[*]] P.Z.S. 1877, p. 816.

Visited by the French naturalist Sonnerat some 106 years ago, the large Philippine island of Mindanao has continued to be almost a *terra incognita* to the zoologist ever since, while the little knowledge of its animals we possessed was restricted to those inhabiting a small portion of its southern and western limb or peninsula in the neighbourhood of the principal Spanish settlement of Zamboanga.

Dr. Steere and the naturalists of the 'Challenger' Expedition[†] added some 40 species to the previously known total of nineteen Mindanao birds; but their researches were likewise confined to the country in the neighbourhood of Zamboanga.

Mr. Everett last May selected new ground, and proceeded to Butuan, on the Butuan river, in North Mindanao, and afterwards changed his station to Surigao, situated at the most northern point of the island, and then to Placer on the north-east side. At these three stations he collected eighty-one species of birds during part of the months of May, June, and July, and has thus largely added to our knowledge of the avifauna of this little-explored island. Mr. Everett in one letter states that his work has been much interrupted by the rains, in another that he has been working under numerous drawbacks—fever, constant heavy rains, and impossibility of getting regular supplies of ammunition. That, in spite of all his difficulties, he should have done so much, redounds all the more to his untiring zeal. P.Z.S. 1877, p. 817.

To the total of fifty-nine known Mindanao birds Mr. Everett has added forty-three. Of these nine are new to science:—

Tanygnathus everetti.
Mulleripicus fuliginosus.
Penelopides affinis.
Criniger everetti.
Orthotomus nigriceps.
Dicœum cinereigulare.
Æthopyga bella.
Anthothreptus griseigularis.
Leucotreron? incognita.

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[*] [Published April 1, 1878.—Ed.]

[†] Dr. Steere added some twenty-nine species, and the 'Challenger' Expedition eleven.

Three are new to the Philippine avifauna:—

Cisticola greyi. *Ægialites cantianus.* *Limnocinclus acuminatus.*

One, stated doubtfully to occur in some Philippine island, was not included in my list:—

Phlogœnas crinigera.

The number of species of birds now recorded from the island of Mindanao amounts to 99, from south-west Mindanao 59, and from north-east Mindanao 81. The grand total of birds inhabiting the Philippine area (as restricted by me) has been increased by Mr. Everett's researches to about 288.

1. Cacatua hæmaturopygia (1).

[Mouth of Butuan river, ♂, May. Iris dark brown; orbital skin white; bill lead-grey; feet grey. Placer, ♂ ♀, July.]

2. Prioniturus discurus (2).

[Surigao, ♂, June; Placer, ♂, July.]

3. Tanygnathus luzonensis (3).

[Butuan, ♂, May; Surigao, ♂ ♀, May.]

4. Tanygnathus everetti.

Tanygnathus everetti, Tweeddale, Ann. & Mag. N. H. ser. 4, vol. xx. p. 533 (December 1, 1877). [*Posteà*, p. 561.]

Tanygnathus sumatranus (Raffles), G. R. Gray, Hand-list, no. 8248, "Island of Sama."

P.Z.S.1877, p. 818. ♀. Whole head light green. Throat, breast, and abdominal region the same, with an ochreous tint. Upper back and interscapulars dark green. First primary dark brown, very narrowly margined with green on outer web; remaining primaries brown, with the whole of the outer web green, and, towards the ends, some of the inner webs. Secondaries, and tertiaries above, green. All the wing-coverts green, narrowly margined with yellow. Quills underneath brown. Under wing-coverts green and yellowish green. Rectrices above green, like quills; below pale golden brown. Middle and lower back and uropygium deep turquoise-blue, not sky-blue. Upper tail-coverts green. Bill in dried skin white.

Wing 7 inches, tail 5, tarsus 0·75, bill from gape 1·00.

[Butuan, ♀, May. Iris orange.]

Only one example is sent by Mr. Everett; but while very close to *T. albirostris*, Wallace, of Celebes, it can be readily distinguished by the deep tone of the blue of the back and its smaller dimensions. An example from the Philippine island of Samar, obtained by Cuming, is in the British Museum, and is alluded to by Dr. O. Finsch (Pap. ii. p. 360) as being possibly *T. muelleri* of Celebes. Mr. Sharpe, who has compared *T. everetti* with Cuming's Samar example, writes:—"*T. everetti* certainly seems to me to be exactly the same species as the bird marked *T. sumatranus* by Gray. It has the same blue edgings to the interscapular feathers.

Our bird has one side of the upper breast blue-edged, which yours has not." Mr. Sharpe adds that the British-Museum skin has the bill coral-red; so that probably this Philippine species, which is a representative form of *T. muelleri*, has either a red or a white bill, like the Celebesian species (conf. Walden, Tr. Z. S. viii. p. 31)*. The blue edgings on the upper breast of the Samar bird do not occur in *T. muelleri*.

5. Cyclopsitta lunulata (4).

[Butuan, ♂, May. Iris dark brown; bill black; the base of maxilla light grey; feet greenish.]

Seven examples from Surigao and three from Butuan are sent by Mr. Everett, and they cannot be specifically separated from Luzon individuals. Only one is marked ♀, and it has a lunated collar and crescentic markings on the lower back; some of the necklace-plumes blue on their under surface. Five examples are of adults (marked ♂) with blue collars, the lower back bright yellow-green and no crescentic markings. Four (marked ♂) are immature birds, with mixed blue and lunated collars, and with traces, more or less, of crescentic markings on the lower back. These last examples establish the identity of *C. lunulata* and *C. loxias*; but the question whether the *lunulata* plumage belongs to adult females as well as to immature males still remains open. Some of the collar-plumes of the only female in the collection being blue underneath perhaps indicates a state of transition to the *loxias* dress. None of the adult males have the whole face, lores, and ophthalmic region blue, as is the case in two Luzon individuals killed in January.

6. Loriculus hartlaubi (7). (Plate LXXXII. *in orig.*) P.Z.S.1877, p. 819.

Coryllis hartlaubi, Finsch, Papag. ii. p. 711.

? *Loriculus indicus* (Briss.); Souancé, var. A, ♂, Rev. et Mag. de Zool. 1856, p. 220, partim.

? *Loriculus cyanolæmus*, Bp. Tab. Uebers. d. Papag. no. 248, Naumannia, 1856, Heft iv. ex Souancé, *l. c.*

? *Loriculus apicalis*, Souancé, *l. c.*

Loriculus melanopterus (Scopoli), G. R. Gray, List Psittacidæ B. Mus. p. 55 (1859), nec Scop.

Loriculus apicalis, Souancé, G. R. Gray, *t. c.* p. 56.

[Butuan, ♂ (immature), May. Iris brown; bill red-orange; feet orange. Placer, ♂ (nearly adult), July. Bill deep red; cere orange. ♂ (immature), July. Bill orange-red; cere light brown.]

The series consists of twenty-one examples of both sexes, the colour of the bill being red or orange-red in all. Ten are from Butuan, one from Surigao, four from Placer, and six from Dinagat†.

When seen from above, every one of these twenty-one examples exhibits a similar distribution of markings and colour, the latter varying in intensity according to age, but not according to sex; so that all are readily to be recognized as belonging to one species. The whole top and back of the head is bright cherry-red, almost of the same shade as in *L. indicus*. The nape is pure golden orange in adults of both sexes. The back is green, more or less washed with yellow, and in adults (♂ ♀) with golden. In all, the uropygium and upper tail-coverts are rich crimson. Adolescence in both sexes, when seen from above, is betrayed by the crown-feathers being green at their insertions and tipped with orange, instead of cherry-red, and by the back being pure green and not suffused with yellow, the uropygium being of a less intense crimson, mixed more or less with green.

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* *Anteà*, p. 135.—Ed.]

† Although I propose to give in a future paper a separate account of the birds collected in Dinagat, it being a distinct Philippine island, it will be more convenient when treating of this little-known species to include the Dinagat examples.

Seen from below, two well-marked phases of plumage are represented, apart from the intermediate grades which characterize nonage. In one phase, the cheeks, chin and upper throat, superciliaries, and lores are pale blue, the lower throat, breast, and abdomen light green or yellow-green. In the other phase, the supercilium, lores, cheeks, chin, throat, and under surface generally are of a full sap-green, with the exception of a crimson, lengthened, pectoral plastron, quadrate below, and diminishing gradually to a narrow gular stripe, reaching almost to the chin. All the examples marked ♀ (6) belong to the first category, as well as some marked ♂ (5). All those with the crimson pectoral mark, or with the slightest trace of red on the breast or throat, are marked male. So distinct a species do the individuals falling under one or other of the two categories appear, that, were it not for several examples in the series marked ♂ exhibiting every gradation of the crimson pectoral mark, from a solitary crimson plume to the fully developed plastron, it might be considered that two species were represented in the series. Three examples, marked ♂, with the crown obscure reddish green, have the face, chin, throat, and supercilium pale faded green, and not blue; these possess no indications of the red pectoral patch. Three other examples (♂), coloured above almost as brightly as an adult, have the lores, supercilium, cheeks, and chin blue, as in the female; but they betray their sex by a few scattered red plumes on the throat and breast. Were it not for these isolated plumes, the sex would be undeterminable by the plumage alone. In one of these three examples the blue chin- and face-feathers are passing over to bright green; and this example exhibits the greatest number of scattered red pectoral and gular plumes. In six other examples (♂), with the pectoral plastron fully developed or almost so, there is no blue about the chin and face.

P.Z.S. 1877, p. 820.

If the six examples described above (marked by Mr. Everett as being of females) are in perfect plumage (and their upper plumage is not to be distinguished from that of undoubtedly adult males), the sexes in this species, when adult, have each a peculiar plumage. It was from either an adult female or else a young male with a blue face and chin, and before any red pectoral plumes had appeared, that Dr. O. Finsch described *L. hartlaubi*. Souancé's description of his *L. bonapartei* (R. et M. Zool. 1856, p. 222), a bird said to be a native of the Sooloo Islands, agrees in all respects with *L. hartlaubi* ♂ adult, the colour of the bill excepted, which is stated to be black. The adult male of *L. indicus* is difficult to distinguish from *L. hartlaubi*, ♀ vel ♂ juv. But in the Ceylon bird the cherry-red of the head does not descend so low on the occiput, and the nape is not so intensely orange. The lower surface of *L. indicus* is pure light green and not yellow-green; the upper tail-coverts do not cover so much of the rectrices. The blue on the inner webs of the quills and on the under surface of the rectrices is much lighter in shade. *L. indicus* is also somewhat larger, and has a shorter and more powerful bill. Souancé's description of *L. indicus*, var. A, ♂ (*l. c.*), partly taken from examples in the Massena collection, said to be from the Philippines, may have been from Mindanao individuals of *L. hartlaubi* ♀ vel ♂ juv. But there is more reason now to infer that Souancé's species, 174 B (*L. apicalis*), said positively to be from Mindanao, was described from examples of either females or young males of *L. hartlaubi*. Souancé's remarks were comparative as between Ceylon and so-called Mindanao specimens, in which case the principal differentiating character of *L. apicalis*, and that which the title is meant to express, " l'extrémité des rectrices est colorée de bleu indigo," will hold good; for while in *L. indicus* the apices of the rectrices in most examples are light yellow-green, in several of Mr. Everett's specimens of *L. hartlaubi* they are dark blue, that darker shade of blue of the under surface of the rectrices which it has in common with *L. philippensis*, *L. chrysonotus*, and *L. regulus*. Souancé, moreover, was not sure that the apices of the rectrices in *L. indicus* contrasted with the general colour. By this view of the question Dr. Finsch's difficulty (Papag. ii. pp. 718, 719) in recognizing *L. apicalis* is overcome. Yet a comparison of the type is desirable; and until made it is best to allow Dr. Finsch's title to stand. Mr. Sharpe has been good enough to compare one of Mr. Everett's examples (♀) with the British-Museum example from Mindanao, labelled by Gray *L. melanopterus*, and writes that it agrees*. The British-Museum example labelled *L. apicalis*, Mr. Sharpe informs me, is somewhat larger, though he "wonders the specimens have been separated." P.Z.S.1877, p. 821.

7. Astur trivirgatus (11).

[Surigao, ♂, May. Iris golden yellow; orbital skin and cere greenish yellow; bill black, mandible whitish; legs dark chrome; claws black.]

Mr. J. H. Gurney informs me that this example belongs to true *A. trivirgatas*, *i. e.* the small race.

8. Spilornis holospilus (16).

[Butuan, ♂, May. *b*. Surigao, ♀, May.]

9. Haliastur intermedius (17).

[Mouth of Butuan river, ♀. Iris brown; bill, cere black mottled with yellow; feet pale greenish yellow; claws black.]

In first plumage.

10. Pernis ptilorhyncha.

Falco ptilorhynchus, Temm. Pl. Col. t. 44.

[Butuan, ♀, May. Iris white; bill black; cere mottled with yellow; feet chrome-yellow; claws black.]

The only example sent is in immature transition plumage. The entire under surface tawny rufous, each feather with a bold dark-brown mesial stripe. Above the new feathers are brown, the old brown, with broad fulvous or pale rufous margins. Mr. J. H. Gurney has been good enough to compare this Butuan individual with a Philippine example in the Norwich

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* The specimen on which Dr. Finsch founded his title of *C. hartlaubi*.

Museum, and has expressed his opinion that it is necessary to wait for more specimens before the question of its non-identity with *P. ptilorhyncha* can be decided.

11. THRIPONAX JAVENSIS (28).

[Surigao, ♀, May. Iris Naples yellow.]

12. MULLERIPICUS FULIGINOSUS. (Plate LXXXIII. *in orig.*)

Mulleripicus fuliginosus, Tweeddale, Ann. & Mag. N. H. ser. 4, xx. p. 534 (December 1, 1877). [*Posteà*, p. 562.]

♂. Slaty smoke-grey. Feathers of the forehead, vertex, occiput, chin, throat, and neck with a terminal white or fulvous-white linear mark. Lores, ear-coverts, and ophthalmic region uniform grey. Feathers covering basal walls of mandible and the cheeks crimson.

Wing 6·25 inches, tail 5·25, culmen 1·70, tarsus 1·00.

P.Z.S. 1877, p. 822. [Surigao, ♂, May. Iris Naples yellow; bill whitish horn-colour; feet dirty greenish.]

This species may be readily distinguished from *M. funebris*, its nearest ally, by being slaty grey and not almost black, by the cheeks only being red (♂) and not the sides of the head, forehead, and vertex, by the red colour being crimson and not mulberry-red, and by the form of the white marks at the tips of the gular, occipital, and nuchal feathers being linear and not round.

13. CHRYSOCOLAPTES LUCIDUS (32).

Vide P. Z. S. 1877, p. 539. no. 5. [*Anteà*, p. 463.]

[Butuan, ♂, May. Bill black; mandible green-yellow; feet dull brownish green.]

A single example, in which, however, the middle pair of rectrices exhibit two pairs of spots near their insertion, showing that they do sometimes appear, and that Sonnerat was correct in so figuring the bird.

14. MEROPS BICOLOR (36).

[Butuan, ♀, May; Placer, ♂, July.]

Chestnut of upper parts unmixed with green. This Bee-eater can no longer be included among the birds peculiar to the Philippines, if the statement made by MM. Oustalet and David (Ois. de la Chine, p. 73) that it visits China during summer in small parties is correct. Up to now it has only been observed in the Philippines by naturalists during the months of February, March, April, July, and October.

15. EURYSTOMUS ORIENTALIS (37).

[Butuan, ♂ ♀, May.]

16. PELARGOPSIS GIGANTEA?

Pelargopsis gigantea, Walden, Ann. & Mag. N. H. ser. 4, vol. xiii. p. 123 [*anteà*, p. 253]; P. Z. S. 1877, p. 541. no. 10. [*Anteà*, p. 465.]

[Butuan, ♂, May. Iris dark brown; bill bright red; feet dark red.]

This single example, sent by Mr. Everett, is not in full attire. Brown predominates on the head, each feather being narrowly margined with creamy white. The under surface is buffy white, most intense on the abdomen and under tail-coverts, while the under wing-coverts and the axillaries and flanks are rich ruddy buff. Culmen 3·12, wing 5·88.

17. Ceyx argentata.

Ceyx argentata, Tweeddale, Ann. & Mag. N. H. ser. 4, vol. xx. p. 533, "Dinagat" (December 1, 1877). [*Posteà,* p. 561.]

[Placer, ♂, July.]

Mr. Everett obtained two examples both marked ♂, which differ in some respects from the type, which is a female. The dorsal plumage, as well as the upper tail-coverts, are snow-white, unmixed with blue or bluish green. The black of the flanks and breast is washed with dark green and not with blue. The dimensions are also less. Wing 2·25. P.Z.S. 1877, p. 823.

18. Entomobia gularis (44).

[Surigao, ♂ ♀, May; Placer, ♂, July.]

19. Sauropatis chloris (47).

[Mouth of Butuan river, ♂, May. *b.* Surigao, ♀.]

20. Xantholæma hæmacephala (50).

[Surigao, ♀, May; Placer, ♀ (young), July.]

21. Macropteryx comatus (52).

[Placer, ♂ ♀, July.]

Wing 5·12.

22. Collocalia troglodytes (53).

[Placer, ♀, July. Iris and legs dark brown; bill black.]

The sexes do not differ.

23. Surniculus velutinus.

Surniculus velutinus, Sharpe [*], Tr. L. S. ser. 2, Zool. i. p. 320.

[Butuan, ♀, May. Iris dark chocolate-brown, bill and claws black; feet blue-grey.]

24. Eudynamis mindanensis (61).

[Butuan, ♂, May. Iris bright crimson; bill greenish grey; feet darker greenish grey.]

These and Malanipa individuals (P.Z.S. 1877, p. 543 [†]) have been compared and are identical, and the dimensions are about equal. The type, however, in all probability came from south-west Mindanao.

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[*] Mr. Sharpe has obliged me by comparing this Butuan example with the type.

[†] [*Anteà,* p. 262.—Ed.]

25. CENTROCOCCYX VIRIDIS (64).

[Surigao, ♂, May. Iris red.]

26. PYRRHOCENTOR MELANOPS (65).

[Butuan, ♂, May. Iris crimson; bill black; legs leaden. *b.* Surigao, ♂. *c.* ♀, May. Iris crimson.]

The sexes, as represented in Mr. Everett's series, wear the same plumage, and are of equal dimensions.

27. BUCEROS MINDANENSIS.

Buceros mindanensis, Tweeddale, P. Z. S. 1877, p. 543. [*Anteà*, p. 467.]

[Butuan, ♂, May. Iris bright yellow; orbital skin blackish, with a yellow streak under the eye; feet dull coral-red; claws blackish grey. *b.* Surigao, ♂, May. Iris (in the living bird) pale green; orbital skin sooty black, but yellow just below the eye; skin of chin yellow; feet light coral-red; claws dark brown grey. *c.* Surigao, ♀, May. Iris white; feet light coral-red; nails black.]

P.Z.S.1877, p. 824. All the five examples in a series of that number slightly differ from the type specimens in having the wing-coverts and back tinged with olive, and in the absence of a channelled or grooved plate, or even a distinct smooth plate, on the basal walls of the mandible. In this respect the North-Mindanao species agrees with that of Luzon, *B. hydrocorax*. One Butuan individual does exhibit a rudimentary plate; and it may be that these plates only mature with age. The rectrices, when first reproduced, are almost white.

28. CRANIORRHINUS LEUCOCEPHALUS (67).

[Surigao, ♂ ♀, May. Iris crimson; feet dark brown. *b.* Butuan, ♀. Iris crimson; orbital skin, base of the mandible, and bare skin of the chin fiery orange-red; bill deep red, lateral grooves brown, intermediate plates or spaces whitish, posterior plate dull reddish; feet dull black.]

The examples with black body, neck, and head-plumage (5) are all marked ♀ by Mr. Everett, and those with tawny throats and dark chestnut napes (2) are marked ♂. This confirms what has been previously stated. The females are slightly smaller, the bill considerably shorter than in the males, and the form of the casque is of a different type. It is not inflated, and is smooth, without any folds. The casque of the female is well delineated by Mr. Smit (Tr. Z. S. ix. t. 27), and that of the male by Huet (Pl. Col. 69). The example (♂) figured (*l. c.*) is a young male.

29. PENELOPIDES AFFINIS.

Penelopides affinis, Tweeddale, Ann. & Mag. N. H. ser. 4, vol. xx. p. 534 (December 1, 1877). [*Posteà*, p. 562.]

♂. Like *P. panini*, but differs in wanting the perpendicular grooves on the thick lateral plates of the maxilla, which are smooth, in the grooves at the base of the mandible not being recurved, but straight, in the whole bill being much less massive, in the abdominal region and under tail-coverts being of the same colour as the breast, and not rufous, and in the rectrices having a black band at their insertion.

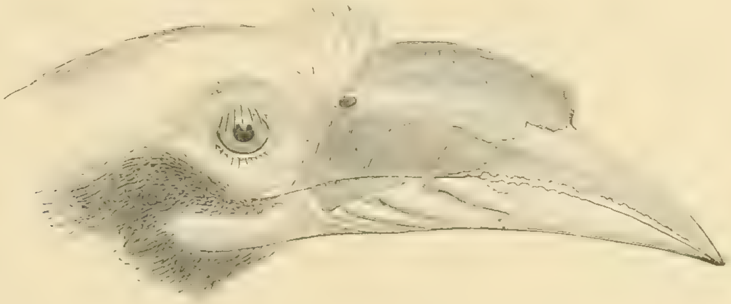
♀. Bill as in the male, and to that extent differs from that of *P. panini* ♀. The female also differs in having a black band at the base of the rectrices.

	Wing. in.	Tail. in.	Tarsus. in.	True culmen. in.
♂	9·25	9·00	1·75	3·40
♀	8·75	8·37	1·60	3·25

[Butuan, ♂, May. Iris crimson; orbital skin, nude portion of chin, and unfeathered part of the rami white; casque, smooth lateral plates of maxilla, and the ungrooved triangular space at base of mandible dark brown; the whole apical part of maxilla from the smooth lateral plates, and of mandible from the grooved base, pale brown; grooves on mandible dark brown; intermediate smooth spaces light ochreous; feet greenish lead-colour; nails greyish black. *a.* Butuan, ♀, May. Iris crimson; orbital skin, nude part of chin, and unfeathered part of the rami dark blue; bill brown; feet dark greenish leaden. *b, c.* Surigao, ♂ ♀, May.]

P.Z.S.1877, p. 825.

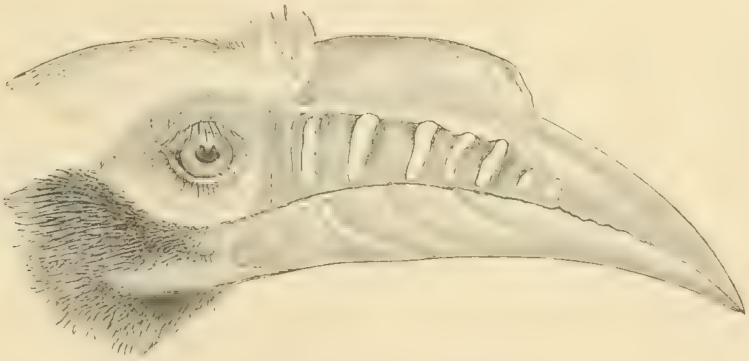
Fig. 1.



Head of *Penelopides affinis.*

A representative form of *P. panini*, ex Panay, Negros, and Guimaras, but readily to be distinguished from that species and *P. manillæ*, ex Luzon, by the channelling on the lateral basal walls of the bill. In one example some of the black upper tail-coverts are tipped and margined

Fig. 2.



Head of *Penelopides panini.*

with dirty rusty. An old Surigao female has several of the secondary quills margined with ferruginous. A young Surigao male has a small part of the outer webs of the fourth, fifth, and P.Z.S.1877, p. 826. sixth primaries edged albescent. An old Surigao male has the thigh-coverts, ventral region, and under tail-coverts pale rufous, and most of the upper tail-coverts as in *P. panini*, otherwise as in typical *P. affinis*. In a Butuan and a Surigao male the middle pair of rectrices, with the exception of the basal black band, are rufous throughout, the normal black terminal band being only indicated by black blotches. The new rectrices are pale fulvous white instead of ferruginous when they first come in. The number of grooves on the mandible varies from three to four. The extreme altitude of the bill, ending at the nostril, is 1·06, whereas in *P. panini* it is 1·37.

30. ARTAMUS LEUCORHYNUS (73).

[Mouth of Butuan river, ♀, May; *b.* Surigao, ♂, May.]

31. GRAUCALUS STRIATUS (74).

[*a.* Placer, ♂, July. Iris light Naples yellow. *b.* ♂, July. Iris dirty brownish white.]

The North-Mindanao individuals have the wing somewhat shorter than typical examples. The example *b* is in first plumage, with the whole under surface barred with black. The others (*a*) have only the under surface, commencing with the lower breast, banded with black.

32. LALAGE DOMINICA (76).

[Butuan, ♂, May; *b.* ♂, June.]

33. DICRURUS STRIATUS.

Dicrurus striatus, Tweeddale, P. Z. S. 1877, p. 545. no. 20. [*Anteà*, p. 469.]

[Butuan, ♂ ♀, May. Iris crimson; bill steel-black. *b.* Surigao, ♂, May. *c.* May, ♂ juv. Iris brown.]

Sexes alike. The young female (*c*) has the breast uniform black; no traces of metallic striation.

34. LEUCOCERCA NIGRITORQUIS (83).

[Surigao, ♀, June.]

35. CYORNIS PHILIPPINENSIS.

Cyornis philippinensis, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 325.

[Butuan, ♂ ♀, May.]

The North-Mindanao examples agree best with those from Luzon (Monte Alban). In dimensions they are equal.

36. HYPOTHYMIS AZUREA (85).

[Butuan, ♀, May; Placer, ♂ ♀, July.]

37. Broderipus acrorhynchus (90).

Oriolus chinensis, Linn., apud Sharpe, Cat. B. Mus. iii. p. 203, nec Linn.

[Butuan, ♂ ♀, May; *b.* Surigao, ♂ ♀, June.]

38. Macronus striaticeps.

P.Z.S.1877, p. 827.

Macronus striaticeps, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 331.

[Surigao, ♂, June. Iris white; bill blackish; legs purple-grey.]

39. Ixus goiavier (99).

[Surigao, ♂ ♀, May. Iris rich dark brown; bill, legs, feet, and nails black. Placer, ♂, July.]

40. Poliolophus urostictus (101).

Poliolophus urostictus (Salvadori), Sharpe, *t. c.* p. 334.

[Surigao, ♂, May. Orbital ring lemon-yellow. *a.* ♀, May. Iris dark brown; orbital ring yellow; bill black; legs dark grey.]

By the words "orbital ring" Mr. Everett probably means the nude eye-wattle and skin surrounding the eye. Sexes alike.

41. Hypsipetes philippinensis (102).

[Butuan, ♂ ♀, May.]

Not separable from Luzon, Zebu, and Guimaras examples. It is not, as might have been expected, *H. rufigularis*—a representative species which occurs at Pasananca (south-west Mindanao).

42. Criniger everetti. (Plate LXXXIV. *in orig.*)

Criniger everetti, Tweeddale, Ann. & Mag. N. H. ser. 4, vol. xx. p. 535 (December 1, 1877)*.

♂ ♀. Above almost golden-yellow brown. Feathers of forehead, vertex, and occiput sublanceolate, brown, margined with golden yellow. Lores yellow. Feathers at base of mandible and cheeks yellow-tipped. Throat, neck, and upper breast brownish ochreous-yellow. Chin, lower breast, abdomen, ventral region, axillaries, under tail- and wing-coverts sulphur-yellow. Inner webs of primaries brown. Exposed surface of all the quills and the wing-coverts like back. Inner margin of inner webs of quills pale yellow. Upper surface of rectrices like that of quills. Under surface pale brown, washed with yellow; inner webs margined with pure yellow. Shafts of quills and rectrices ruddy brown above; of quills underneath yellow at base and brown towards the end; of rectrices bright yellow throughout.

	Wing. in.	Tail. in.	Tarsus. in.	Culmen. in.
♂	4·50	4·62	0·87	1·25
♀	4·35	4·25	0·87	1·12

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* [*Posteà*, p. 563.—Ed.]

[Surigao, ♂, May. Iris dark burnt sienna-brown; bill black, mandible greyish; legs grey; claws dark grey. *b.* ♀, May. Iris dark sienna-brown.]

Mr. Everett has sent a series of thirteen specimens of this distinct species of *Criniger*. It is readily to be distinguished by its ochreous-brown throat and upper breast. The nuchal hairs are present. The dimensions of the adult females appear to be less than those of the males; otherwise the sexes are alike. This species belongs to a genus new to the Philippine area. P.Z.S.1877, p. 828.

43. Copsychus mindanensis (106).

[Butuan, ♂ juv., May.]

Only differs from the adult male by having the breast dark grey, each feather with a fulvous central mark.

44. Cisticola grayi.

Cisticola grayi, Tweeddale, Ann. & Mag. N. H. ser. 4, vol. ix. p. 400 *, "North Celebes."

[Surigao, ♂, May. Iris yellow-brown.]

This skin is not to be distinguished from the type of *C. grayi*, and may prove to be =*C. semirufa*, Cab., the description of which is, however, too meagre for recognition.

45. Orthotomus frontalis.

Orthotomus frontalis, Sharpe †, Tr. L. S. ser. 2, Zool. i. p. 336; Ibis, 1877, p. 112, t. 2. fig. 1.

[Surigao, ♂, May. *b.* Butuan, ♀, May. Iris clay-brown; bill dark brown, mandible white; legs light transparent brown.]

46. Orthotomus nigriceps, sp. n. (Plate LXXXV. *in orig.*)

[Butuan, ♂, May. Iris clay-brown; maxilla black; mandible white; legs and feet pale brownish.]

Forehead, vertex, occiput, nape, and ear-coverts very dark brown or black. Space before the eye and a broad supercilium which passes behind the eye white; chin, cheeks, throat, and breast pale greyish white, the bases of the feathers being dark iron-grey. Lower breast tinged with yellow. Flanks, abdomen, under wing- and tail-coverts yellow-olive. Back, uropygium, and upper tail-coverts pure olive-green. All the wing-feathers brown, the quills being externally margined with yellowish olive-green, the minor and major coverts with a paler yellow-olive. Thigh-coverts mixed pale rufous and olive-green. Rectrices above dull rufous, with very narrow pale margins. Underneath pale rufous, washed with light yellowish green.

Wing.	Tail.	Tarsus.	Culmen.
in.	in.	in.	in.
1·70	1·70	0·85	0·60

Allied to *O. cinereiceps*, but with a black head.

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* [*Anteà*, p. 127.—Ed.]

† Compared by Mr. Sharpe.

47. Corydalla lugubris (117).

[Surigao, ♂ ♀, May, June; Placer, ♂, July.]

After a careful comparison made between this Philippine race, *C. rufula* of India, and *C. malayensis* from Malacca and Sumatra, it appears to be an exactly intermediate form, *C. rufula* being the palest and of an ochreous red, *C lugubris* being darker and greyer, and *C. malayensis* being more reddish brown. Every individual of my large series of this species is constant in its colouring.

48. Zosterops everetti.

P.Z.S. 1877, p. 829.

Zosterops everetti, Tweeddale, P. Z. S. 1877, p. 762. [*Anteà*, p. 536.]

[Surigao, ♂, June. Iris yellow-brown; bill black; legs grey.]

A single example, which only differs from the type (♂ ex Zebu) by having the yellow on the mesial line much more developed.

49. Dicæum rubriventer (120 partim).

Dicœum rubriventer, Lesson, Tr. p. 303; Tweeddale, P. Z. S. 1877, p. 763. [*Anteà*, p. 536.]

[Butuan, ♂ ♀, May. *b.* Surigao, ♂, May; Placer, ♂, July.]

The example marked ♀ only differs from a considerable series of males in having the upper plumage ashy grey, and not glossy black. Underneath it is undistinguishable from the male.

50. Dicæum cinereigulare, sp. n.

[*a.* Butuan, ♂, May. Iris dark brown; bill black. *b.* Surigao, ♀, June. Iris chocolate. *c.* Placer, ♂, July. Iris brown; bill black; legs dark grey.]

Closely allied to *D. dorsale*, Sharpe, but differs in having the breast intense orange-red and the upper breast and sides of throat grey slightly tinged with pale yellow. The chin and middle of throat are pale yellow. These characters are present in all the specimens (eight) sent by Mr. Everett from North Mindanao.

51. Æthopyga (Eudrepanis) bella.

Æthopyga bella, Tweeddale, Ann. & Mag. N. H. ser. 4, vol. xx. p. 537 (December 1, 1877) *.

♂. Chin, throat, breast, and uropygium bright sulphur-yellow. Forehead, vertex, minor carpal coverts, upper tail-coverts, and upper surface of rectrices dark metallic green. Occiput, nape, and wing-coverts dark olive. Cheeks, lores, behind the eye, sides of head and neck, interscapulars, and back deep blood-red. Quills almost black, margined with dark olive. Abdomen, flanks, vent, under tail-coverts, and under wing-coverts silky white, more or less tinged with pale yellow, especially on the mesial line, under tail-coverts, and carpal edge. A few blood-red feathers on the upper breast. A metallic violet spot on sides of head. A narrow line of deep blood-red runs along the rami of the mandible. A bold metallic moustache springs from the base of the mandible, and descends the sides of the neck; the upper half violet, the lower half green.

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* [*Posteà*, p. 565.—Ed

♀. Above, wing-coverts, and edgings to quills olive-green. Uropygium bright sulphur-yellow as in ♂. Space before the eye, cheeks, ear-coverts, chin, throat, and upper breast grey tinged with yellowish olive-green. Lower breast, abdomen, flanks, and under tail-coverts white tinged with yellow. Under wing-coverts white, faintly tinged with yellow. Quills and rectrices dark brown, margined with olive; lateral rectrices tipped with albescent olive.

	Wing.	Tail.	Tarsus.	Culmen.
	in.	in.	in.	in.
♂	1·68	1·44	0·50	0·50
♀	1·62	1·12	0·50	0·50

P.Z.S. 1877, p. 830. [Surigao, ♂, May. Iris dark umber. *b.* ♂ juv.]

Five examples of this lovely small Sun-bird were obtained by Mr. Everett, the discoverer of the species. Four are in the full adult dress, and are marked ♂; and one is in the dull olive-grey dress of either the young male or adult female, but is marked ♂ juv. No example marked ♀ is sent.

52. NECTAROPHILA SPERATA (122).

Cinnyris speratus (Linn.), Shelley, *Cinnyridæ*, pt. iv. t.

[Butuan, ♂, May. Iris brown; bill jet-black; legs blackish brown. *b.* Surigao, ♂, May; Placer, ♂, July.]

Mr. Everett has sent a large series (fifteen examples) from North Mindanao and Dinagat Island of this species in full male plumage. They in no respect differ from Luzon, Guimaras, and Negros individuals, excepting that the average length of their bill is less. Along with this series of males is a smaller series (five) of individuals all marked ♀ by Mr. Everett, and which I am at a loss to determine. Were it not that Captain Shelley has figured and described (*l. c.*) the female from a specimen obtained by Dr. Steere in Negros (?) as having the "sides and upper half of the head and neck ashy grey; the wings dark brown, edged yellowish olive; underparts sulphur-yellow," I should without hesitation refer the examples marked ♀ by Mr. Everett to *N. sperata* ♀. In a Surigao example (marked ♀) the quills are brown, conspicuously margined with rusty ochre, so that the wing when closed appears to be ferruginous or ruddy yellowish brown. The forehead, vertex, and nape are dull brownish grey. The chin and all the throat and sides of head light grey, tinged with yellow. Breast, abdomen, and flanks grey, washed with a brighter yellow*. Outer pair of rectrices with a pale albescent apical mark. This individual must either be *N. sperata* ♀ vel ♂ juv., or belong to some undescribed species. Dimensions as in *N. sperata* ♂.

53. ARACHNECHTHRA JUGULARIS (123).

[Butuan, ♂ ♀, May; Surigao, ♂ ♀, May and June; Placer, ♀, July.]

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* Unfortunately Captain Shelley does not state with precision the habitats of the specimens he has described and figured. But on referring to Mr. Sharpe's account it will be found that the only supposed female of this species was obtained by Dr. Steere in Negros.

54. ANTHOTHREPTUS GRISEIGULARIS, n. sp.

[Surigao, ♂ ♀, May. Iris bright Indian-red; bill black; legs greenish grey; Placer, ♀, July. Iris and bill dark brown; lower half of bill very light brown; legs greenish; nails brown; soles ochre.]

♂. Forehead, crown, occiput, nape, and back metallic green. Uropygium and upper tail-coverts metallic purplish blue. A few of the carpal coverts and tips of the median wing-coverts metallic violet-blue. Median wing-coverts maroon. Minor wing-coverts metallic green. Space before the eyes, cheeks, ear-coverts, major wing-coverts, and scapulars maroon. Chin and throat grey. A streak commencing at base of mandible and running down each side of the neck metallic green, with a tinge of violet in certain lights. Breast, flanks, abdomen, and under tail-coverts greenish yellow. Axillary tufts pure bright yellow. Under wing-coverts pale yellow-white. Rectrices black, tinged with metallic green, changing to violet-blue in certain lights. Primaries dark brown, with narrow albescent margins; secondaries dark brown, edged with maroon.

P.Z.S. 1877, p. 831.

♀. Feathers of the top of head, cheeks, ear-coverts, the nape, upper back, and minor wing-coverts brown, each conspicuously margined with grey, the margins of the interscapulars and nuchal feathers being faintly tinged with green. Lower back, uropygium, and upper tail-coverts (some of the latter tinged with maroon) greyish green. Chin and throat greyish white. Upper breast grey. Lower abdomen, flanks, and under tail-coverts pale greenish yellow. Quills dark brown; primaries narrowly edged with albescent rufous, the secondaries broadly with dingy maroon. Major coverts and scapulars the same dingy maroon. Rectrices dark brown, margined with dingy maroon, and a minute albescent terminal fringe. Wing-lining as in male.

	Wing.	Tail.	Tarsus.	Culmen.
♂.	2·62	1·75	0·68	0·62
♀.	2·25	1·50	0·68	0·62

Both Mr. Sharpe and Captain Shelley are of opinion that this species differs specifically from *A. chlorigaster*, Sharpe. From *A. malaccensis* the male is chiefly distinguished by having the head and back pure green, contrasting strongly with the purple-blue of the uropygium and upper tail-coverts, and by its pure grey and not pale rufous throat. The dress of the adult female in *A. malaccensis* is not as yet accurately known; but, presuming that in that species the adult female has a grey throat, these Surigao females only differ in having the crown of the head greyer and less green.

55. CORVUS PHILIPPINUS (125).

[Surigao, ♂ ♀, May.]

The dimensions of the females are less than those of the male, and the bill is weaker.

	Wing.	Tail.	Tarsus.	Culmen.	Extreme altitude.
♂	12·25	9·50	2·12	2·25	1·00
♀	11·37	8·50	1·87	2·07	0·87

This discrepancy of size is to be found in Zebu examples also.

56. Calornis panayensis (128).

[Surigao, ♂ ♀, May; Placer, ♂, July.]
Sexes alike.

57. Sarcops calvus (129).

[Butuan, ♀, May. *b.* Surigao, ♂ ♀, May.]
Sexes alike.

P.Z.S. 1877, p. 832. 58. Munia jagori (132).

[Butuan, ♂, May; Placer, ♂ ♀, July.]

59. Osmotreron axillaris (136).

[Mouth of Butuan river, ♀, May. Iris light silvery green; cere dull dark red; bill greenish lead. *b.* Surigao, ♂, May.]

60. Xenotreron incognita.

Ptilopus? incognita, Tweeddale, Ann. & Mag. N. H. ser. 4, vol. xx. p. 538 (December 1, 1877). [*Posteà*, p. 565.]

♀. Above, tertiaries, and wing-coverts light emerald-green. Forehead, lores, ophthalmic region, cheeks, and ear-coverts grey mixed with dingy green. Chin and throat almost pure white. Neck and sides of neck greenish grey. An ill-defined pectoral band formed of green feathers tipped with ruddy orange; breast ashy green tinged with the same colour. Flanks green. Abdomen mixed green and ashy. Under tail-coverts (which are lengthened) pale creamy white with a brown central streak. Thigh- and tarsal coverts ashy brown. Exposed upper surface of rectrices tinged with golden. Lower surface pale ashy brown, with ill-defined paler tips. Quills dark brown, margined outwardly with dark green. Secondaries with a pale narrow creamy border, still narrower on the major coverts.

Wing 5·25 inches, culmen 0·75, tarsus 0·81, tail 3·75.

[Butuan, ♀, May. Iris dark hazel; bill dull greenish orange; feet pale reddish.]
The only example obtained by Mr. Everett is that of an immature female.

61. Ramphiculus occipitalis (138).

[Butuan, ♂, May. Colour of iris &c. as in Cebu birds.]
Not separable from Luzon and Zebu examples.

62. Phabotreron amethystina (139).

[Butuan, ♂, May. Iris warm orange-brown; bill black; feet carmine; nails grey.]
Does not differ from Luzon examples.

63. Phabotreron brevirostris.

Phabotreron brevirostris, Tweeddale, P. Z. S. 1877, p. 549. [*Anteà*, p. 473.]

[Butuan, ♂ ♀, May. *b.* Surigao, ♂, May; Placer, ♂, July.]

The examples marked ♂ and ♀ do not materially differ; but in the male the amethystine colouring of the back and rectrices is more pronounced. The rufo-fulvous forehead, the albescent chin and throat, the amethystine-coloured cap and rectrices, and the short bill distinguish this representative form from *P. leucotis.*

64. Carpophaga ænea (141).

[Surigao, ♂, May. *b.* Butuan, ♂, May.]

65. Turtur dussumieri (147).

P.Z.S.1877, p. 833.

[Butuan, ♀, May. Iris reddish; bill grey-black; feet dull carmine. *b.* Surigao, ♂, May; Placer, ♂, July.]

The dimensions of the female are a trifle less than those of the male. In colour and marking there appears to be but little difference, the nuchal collar being perhaps more developed in the male.

66. Phlogœnas crinigera.

Pampusanna criniger, Pucheran, Voy. Pôle Sud, iii. p. 118 (1853), Atlas, t. 27. f. 2; Sclater, P. Z. S. 1865, p. 238.

Phlogœnas bartletti, Sclater, P. Z. S. 1863, p. 377, t. xxxiv.

[Placer, ♂, July. Iris brown; bill black; legs dull carmine.]

The type is stated by Pucheran to have been found in the Sooloo Islands (Soog). Mr. Sclater, on seeing it at Paris, recognized its identity with his *P. bartletti*, founded on four living individuals sent to Liverpool, and stated to have been brought from an uninhabited island near the Philippines. A full account of these birds, together with delineations of the sternum, is given by Mr. Sclater (*l. c.*). The Sooloo habitat requires confirmation. The bird is a representative form of *P. cruenta*, but perfectly distinct. The dark claret-coloured patch on the breast replaces the blood-red pectoral plumes of the older known species; and the feathers of which it is composed are even of a harsher and stiffer texture.

67. Chalcophaps indicus (150).

[Surigao, ♂, June.]

68. Charadrius fulvus (159).

[Butuan, ♀, May.]

A number of black feathers on the under surface.

69. Squatarola helvetica (160).

[Placer, ♀, July. Iris chocolate; legs light grey.]

In winter plumage, although shot in July.

70. Ægialitis dubia (162).

[Placer, ♀, July. Orbital ring orange.]

71. ÆGIALITIS CANTIANA.

Charadrius cantianus, Lath. Suppl. Ind. Orn. p. lxvi (1801).

[Placer, ♂, July. Iris deep brown; bill glossy black; legs light grey.]

Not hitherto recorded from the Philippines.

72. ERYTHRA PHŒNICURA (170).

[Butuan, ♂ ♀, May.]

73. HYPOTÆNIDIA TORQUATA (177).

[Butuan, ♀, May. Iris crimson.]

One example; pectoral band fully developed.

P.Z.S.1877, p. 834. 74. HYPOTÆNIDIA STRIATA (179).

[Butuan, ♂ ♀, May.]

The female has all the throat white, and all its hues, the rufous of the head and nape included, much paler than in the male.

75. LIMNOCINCLUS ACUMINATUS *.

Totanus acuminatus, Horsf. Tr. L. S. xiii. p. 192, "Java."

Schœniculus australis (Jard. & Selby), Gould, B. Austr. vi. t. 30.

[Butuan, ♂, May. Bill dark brown; legs greenish grey.]

A single example in almost full summer dress.

76. TOTANUS HYPOLEUCUS (183).

[Butuan, ♀, May.]

Three examples, all marked ♀.

77. RHYNCHÆA CAPENSIS (189).

[Butuan, ♂, May.]

78. ARDETTA FLAVICOLLIS (191).

[Butuan, ♂, May. Iris bright yellow; bill purplish brown; legs darker purplish brown. *b.* ♀, May. Iris red-brown; bill light warm brown; legs and feet greyer brown.]

Examples from China, Ceylon, and all India do not differ.

79. BUTORIDES JAVANICA (197).

[Mouth of Butuan river, ♂, May. Iris bright yellow; legs and feet dull dark chrome; bill black; bare orbital skin green-yellow. *b.* Butuan, ♀, May.]

Dorsal train fully developed.

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* In this identification I am confirmed by Mr. Harting.

80. Nycticorax griseus (199).

[Butuan, ♂, May. Iris orange; bill black, base and mandible light green; legs and feet light green.]

Immature.

81. Dendrocygna vagans (203).

An example is in the collection, but without a label; it is either from North Mindanao or else from Dinagat.

Descriptions of some new Species of Birds. By Arthur, Marquis of Tweeddale, F.R.S. [From the 'Annals and Magazine of Natural History,' ser. 4, vol. xx., December 1877.] A. M. N. H. ser.4, vol. xx. p. 533.

Tanygnathus everetti, sp. n.

♀. Whole head light green. Throat, breast, and abdominal region the same, with an ochreous tint. Upper back and interscapulars dark green. First primary dark brown, very narrowly margined with green on outer web; remaining primaries brown, with the whole of the outer web green, and, towards the ends, some of the inner webs. Secondaries, and tertiaries above, green. All the wing-coverts green, narrowly margined with yellow. Quills underneath brown. Under wing-coverts green and yellowish green. Rectrices above green, like quills; below pale golden brown. Middle and lower back and uropygium deep turquoise-blue, not sky-blue. Upper tail-coverts green. Bill in dried skin white.

Wing 7 inches, tail 5, tarsus 0·75, bill from gape 1·00.

Obtained by Mr. Everett at Butuan (N. Mindanao).

Ceyx argentata, sp. n.

♀. Chin, throat, upper breast, abdomen, ventral region, major under wing-coverts, and thigh-coverts pure white. Cheeks, sides of head, and ear-coverts black. Lower breast and flanks black, washed with deep blue. Rectrices and under tail-coverts black. Plumage above black. A bold supercilium commencing above the eye and running into the occipital crest, formed by the component plumes being tipped with pale silvery blue. Many of the feathers of the vertex minutely tipped with silvery blue. Occipital crest tipped with pale silvery bluish green, or silvery blue, or the two together. Dorsal plumage and lengthened upper tail-coverts black at base, then silvery bluish green, then pale silvery blue. Wings black. Major coverts each with a terminal silvery-green spot. Loral spot white. An isolated tuft on the sides of neck, white tipped with creamy fulvous. Bill black.

Wing 2·62 inches, tail 1·37, tarsus 0·45, culmen 1·50.

Obtained at Dinagat, a small island immediately north of Mindanao, in June, by Mr. Everett, and is one of his most interesting discoveries.

MULLERIPICUS WALLACEI, sp. n.

Mulleripicus fulvus (Quoy & Gaim.), partim, Walden, Tr. Z. S. viii. p. 41. no. 35, ex Macassar. [*Anteà*, p. 144.]

♂. Differs from typical *M. fulvus* ♂ (ex Menado) by the upper plumage being of a darker shade of slate-grey, by the occiput as well as the forehead and vertex being red, and by the bill being shorter. The eye is surrounded by red, which extends some way behind it, whereas in true *M. fulvus* the white-spotted grey feathers of the occiput commence at the posterior part of the eye, and separate the red of the vertex from that of the face. A. M. N. H. ser.4,vol.xx. p. 534.

♀. Differs from true *M. fulvus* ♀ (ex Menado) by having the white-tipped feathers of the head restricted to the occiput, by the spots being smaller and not so profuse, and by the white dots on the throat being almost obsolete.

	Wing. in.	Tail. in.	Tarsus. in.	Culmen. in.
M. fulvus ♂ ex Menado	7·12	7·50	1·12	1·96
" ♀ "	6·0	6·62	1·00	1·87
M. wallacei ♂ ex Macassar	7·00	6·50	1·00	1·75
" ♀ "	6·87	6·40	1·00	1·75

The Macassar examples were collected by Mr. A. Wallace, after whom I venture to name the species. Those from Menado by Dr. B. Meyer.

MULLERIPICUS FULIGINOSUS, sp. n.

♂. Slaty smoke-grey. Feathers of the forehead, vertex, occiput, chin, throat, and neck with a terminal white or fulvous-white linear mark. Lores, ear-coverts, and ophthalmic region uniform grey. Feathers covering basal walls of mandible and the cheeks crimson.

Wing 6·25 inches, tail 5·25, culmen 1·70, tarsus 1·00.

From Surigao (N. Mindanao), where discovered by Mr. Everett.

PENELOPIDES AFFINIS, sp. n.

♂. Like *P. panini*, but differs by wanting the perpendicular grooves on the thick lateral plates of the maxilla, which are smooth, by the grooves at the base of the mandible not being recurved, but straight, by the whole bill being much less massive, by the abdominal region and under tail-coverts being of the same colour as the breast, and not rufous, by the upper tail-coverts being black, and not rufous, and by the rectrices having a black band at their insertion.

♀. Bill as in male, and to that extent differs from that of *P. panini* ♀. The female also differs by having a black band at the base of the rectrices.

	Wing. in.	Tail. in.	Tarsus. in.	True culmen. in.
♂.	9·25	9·00	1·75	3·40
♀.	8·75	8·37	1·60	3·25

A. M. N. H. ser.4,vol.xx. p. 535. Described from examples obtained by Mr. Everett at Butuan (N. Mindanao).

POMATORHINUS NUCHALIS, sp. n.

Pomatorhinus leucogaster, Gould, apud Walden, B. Burma, no. 351.

Differs from *P. olivaceus*, Blyth, ex Meetan and Mooleyit (Tenasserim) by the ferruginous of the sides of the neck extending down the flanks, and from *P. schisticeps*, Hodgs., = *P. leucogaster*, Gould, by its smaller dimensions, and the absence of pure white central streaks on the lateral ferruginous pectoral feathers.

This is the race that inhabits Thyetmyo, the Yoma and Karen hills, and Karen-nee. In examples from all these localities the nape is tinged with rufous; but in Karen-nee individuals the rufous forms a distinct broad demicollar.

This would appear to be the race identified by Mr. Hume (Str. F. iii. p. 121) as *P. schisticeps*, Hodgs., a species which cannot be separated from *P. leucogaster*, Gould, both described from the Himalayas, the stated dimensions of *P. leucogaster* scarcely differing from the actual dimensions of the type specimens of *P. schisticeps* in the British Museum.

MIXORNIS (?) CAPITALIS, sp. n.

♀. Forehead, vertex, and occiput rufous, each feather with a pale fulvous central streak. Space before the eyes and lores dull grey. Cheeks, ear-coverts, and sides of neck ashy, each feather with a pale albescent central streak. Nape, back, and wing-coverts the same, the pale striations on the back being very prominent in consequence of the abnormal length of the dorsal plumage. Uropygium and upper tail-coverts olive rusty grey and unstriated. Rectrices brown; outer pair with the whole outer and apical third of the inner web pale yellowish white; remaining pairs, middle excepted, broadly tipped on both webs with white, middle pairs slightly tipped with white. All the quills brown, narrowly margined externally with fulvous grey, the tertiaries with pale rusty. Basal portion of quills margined on their inner webs with white. Chin and throat rufous and rufous-white. Breast, under wing-coverts, abdomen, vent, and under tail-coverts white, faintly tinged with very pale yellow.

Wing 2·75 inches, tail 2·50, tarsus 0·70, culmen 0·62.

Described from a single individual obtained in the Philippine island of Dinagat by Mr. Everett.

CRINIGER EVERETTI, sp. n.

A. M. N. H. ser. 4, vol. xx. p. 536.

♂ ♀. Above almost golden-yellow brown. Feathers of forehead, vertex, and occiput sublanceolate, brown, margined with golden yellow. Lores yellow. Feathers at base of mandible and cheeks yellow-tipped. Throat, neck, and upper breast brownish ochreous yellow. Chin, lower breast, abdomen, ventral region, axillaries, under tail- and wing-coverts sulphur-yellow. Inner webs of primaries brown. Exposed surface of all the quills and the wing-coverts like back. Inner margin of inner webs of quills pale yellow. Upper surface of rectrices like that of quills. Under surface pale brown, washed with yellow; inner webs margined with pure yellow. Shafts of quills and rectrices ruddy brown above; of quills underneath yellow at base and brown towards the end; of rectrices bright yellow throughout.

	Wing. in.	Tail. in.	Tarsus. in.	Culmen. in.
♂.	4·50	4·62	0·87	1·25
♀.	4·35	4·25	0·87	1·12

Described from examples obtained by Mr. Everett at Surigao (N. Mindanao).

HYPOTHYMIS CŒLESTIS, sp. n.

♀. Azure. Feathers of the head grey at their insertion, and each tipped with glistening azure; a lengthened occipital crest similarly marked. Space before the eye and lores pale blue. Chin, cheeks, throat, sides of neck and upper breast rich velvety turquoise-blue, darker than the blues of the rest of the plumage. Back and upper tail-coverts with grey bases to the feathers, the extremities being blue, which is paler on the upper tail-coverts. Wing-coverts of the same shade of blue as the head. Quills dark brown externally, margined with a paler shade of blue. Lower breast, abdomen, vent, flanks, and under tail-coverts white, tinged with pale greenish blue, most intense on the flanks. Axillaries grey, tinged with pale blue. Rectrices above like the quills; underneath dark brown like under surface of the quills. Shafts of the rectrices brown above, almost white underneath. Shoulder-edge blue.

Wing 2·83 inches, tail 3·00, tarsus 0·62, culmen 0·56.

Described from a specimen obtained in the island of Dinagat (Philippines) by Mr. Everett.

PRIONOCHILUS OLIVACEUS, sp. n.

♀. Entire upper surface, wing-coverts, and surface of closed wing uniform pure olive-green, which colour encircles the eye and covers the sides of the neck. Space before the eye, cheeks, sides of throat, and the upper breast grey. Lower breast, abdomen, flanks, and under tail-coverts the same grey washed faintly with olive-green, the mesial line being albescent. Chin and throat white, slightly greyish, forming a broad well-defined greyish-white stripe, commencing at the chin and descending to the breast. Axillaries and under wing-coverts pure silky white. Remiges and rectrices dark brown, margined with the olive-green hue of upper plumage.

A. M. N. H. ser.4, vol. xx. p. 537.

Wing 2·12 inches, tail 1·25, tarsus 0·62, culmen 0·37.

Described from an example obtained by Mr. Everett in the island of Dinagat (Philippines).

DICÆUM SCHISTACEUM, sp. n.

♂. Above fuliginous ashy; below ashy white. Remiges and rectrices above dark ashy brown, underneath paler. Under wing-coverts and axillaries pure white. Base of mandible (in dry specimens) yellowish white; apex and the maxilla pale ruddy brown.

Wing 2·25 inches, tail 1·37, tarsus 0·62, culmen 0·35.

DICÆUM EVERETTI, sp. n.

♂. Above dark olive-green, paler on the cheeks. Chin, throat, and breast pale grey. Remainder of underparts albescent grey, tinged with palish yellow. Major coverts narrowly margined with greenish yellow. Quills above dark brown, almost black, with very narrow pale olive-green external margins. Rectrices above like quills, narrowly tipped with an albescent fringe. Under wing-coverts and axillaries pure white. Bill (dry specimen) brown at tip, yellow at base.

Wing 1·94 inch, tail 1·00, tarsus 0·50, culmen 0·37.

These two species of *Dicæum* were discovered by Mr. Everett in the island of Dinagat.

ÆTHOPYGA BELLA, sp. n.

♂. Chin, throat, breast, and uropygium bright sulphur-yellow. Forehead, vertex, minor carpal coverts, upper tail-coverts, and upper surface of rectrices dark metallic green. Occiput, nape, and wing-coverts dark olive. Cheeks, lores, behind the eye, sides of head and neck, interscapulars, and back deep blood-red. Quills almost black, margined with dark olive. Abdomen, flanks, vent, under tail-coverts, and under wing-coverts silky white, more or less tinged with pale yellow, especially on the mesial line, under tail-coverts, and carpal edge. A few blood-red feathers on the upper breast. A metallic violet spot on sides of head. A narrow line of deep blood-red runs along the rami of the mandible. A bold metallic moustache springs from the base of the mandible, and descends the sides of the neck; the upper half violet, the lower half green.

A. M. N. H.
ser.4, vol.xx.
p. 538.

♀. Above, wing-coverts, and edgings to quills olive-green. Uropygium bright sulphur-yellow as in ♂. Space before the eye, cheeks, ear-coverts, chin, throat, and upper breast grey tinged with yellowish olive-green. Lower breast, abdomen, flanks, and under tail-coverts white tinged with yellow. Under wing-coverts white faintly tinged with yellow. Quills and rectrices dark brown, margined with olive; lateral rectrices tipped with albescent olive.

	Wing. in.	Tail. in.	Tarsus. in.	Culmen. in.
♂.	1·68	1·44	0·50	0·50
♀.	1·62	1·12	0·50	0·50

Described from examples discovered by Mr. Everett at Surigao (N. Mindanao).

This species falls under Mr. Sharpe's subgenus *Eudrepanis*.

PTILOPUS ? INCOGNITUS, sp. n.

♀. Above, tertiaries, and wing-coverts light emerald-green. Forehead, lores, ophthalmic region, cheeks, and ear-coverts grey mixed with dingy green. Chin and throat almost pure white. Neck and sides of neck greenish grey. An ill-defined pectoral band formed of green feathers tipped with ruddy orange; breast ashy green tinged with the same colour. Flanks green. Abdomen mixed green and ashy. Under tail-coverts (which are lengthened) pale creamy white with a brown central streak. Thigh- and tarsal coverts ashy brown. Exposed upper surface of rectrices tinged with golden. Lower surface pale ashy brown, with ill-defined paler tips. Quills dark brown, margined outwardly with dark green. Secondaries with a pale narrow creamy border, still narrower on the major coverts.

Wing 5·25 inches, culmen 0·75, tarsus 0·81, tail 3·75.

Obtained at Butuan (N. Mindanao) by Mr. Everett.

The sexual symbols prefixed to all the descriptions of the Philippine birds are taken from Mr. Everett's labels.

1878.

P.Z.S. 1878, p. 106. *Contributions to the Ornithology of the Philippines.*—No. IV. *On the Collection made by Mr. A. H. Everett in the Islands of Dinagat, Bazol, Nipah, and Sakuyok.* By Arthur, Marquis of Tweeddale, F.R.S., President of the Society. [From the 'Proceedings of the Zoological Society of London,' read January 15, 1878 *, Plates VI.–VIII. *in orig.*]

The four islands in which Mr. Everett collected the birds of which I propose to give an account P.Z.S. 1878, p. 107. are situated to the north of the shores of Mindanao, and are only separated from that island by narrow channels. Through these channels the wind blows with considerable force throughout the greater part of the year, being either the gales of the S.W. or the N.E. monsoon.

Mr. Everett's observations on the ornithological features of these islands, coming as they do from a personal observer, merit transcription. He writes:—"No district visited so far has equalled the vicinity of Manilla in the number and variety of its birds. The progress of the work shows that a very close general similarity exists between the islands of Mindanao and Luzon, though there are some marked local differences. This was to be expected; and it is rather surprising that the differences are as marked as they are, when we consider that not only are the islands separated from one another by very narrow spaces of sea, but that they are situated in an area where strong winds blow in various directions, with little cessation during the major part of the year, accompanied with violent squalls and typhoons, so that any high degree of specialization in the local avifauna would seem, *à priori*, out of the question."

In the island of Dinagat, Mr. Everett writes, he found birds to be excessively rare; still he obtained 39 species, 7 of which were undescribed:—

Ceyx argentata.
Hypothymis cœlestis.
Mixornis capitalis.
Dicæum schistaceum.
Dicæum everetti.
Prionochilus olivaceus.
Æthopyga dubia.

Only 13 species were obtained in the small islands of Nipah, Bazol, and Sakuyok; and they are all known inhabitants of Mindanao.

1. Cacatua hæmaturopygia (1).

[Nipah, ♀, July.]

2. Loriculus hartlaubi (7).

[*a.* Dinagat, ♂ ♀, June. *b.* Bazol, ♂, July.]

The example figured, P. Z. S. 1877, p. 819 (♂), is in full adult plumage, the occipital feathers being orange-red, grading into orange on the nape, which colour suffuses and descends the back, losing itself in the pure green of the lower back. There is no blue about the face, chin, or throat; the dark blue of the under surface of the rectrices fades into pale blue at their apices. The orange hue on the back of the female figured is less intense.

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* [Published June 1st, 1878.—Ed.]

3. Harpactes ardens (34).

[Dinagat, ♂, June: iris brown; bill yellow, base green.]

A single example, in adult plumage, and which has a more massive bill than is found in Luzon individuals. Otherwise alike, and dimensions equal.

4. Merops philippinus (35).

[Bazol, ♂, July.]

5. Eurystomus orientalis (37).

P.Z.S. 1878, p. 108.

[*a*. Dinagat, ♂, June. *b*. Nipah, ♀, July.]

6. Pelargopsis gigantea.

Pelargopsis gigantea, Walden, Ann. & Mag. Nat. Hist. (4) xiii. p. 123; P. Z. S. 1877, pp. 541, 822. [*Anteà*, p. 253.]

[Dinagat, ♀ ♂, June.]

Neither example in full plumage; and both are not separable from the Butuan male observed upon *l. c.* Butuan, Pasananca, Malanipa, and these Dinagat individuals appear to belong to a small race of *P. gigantea*.

7. Ceyx argentata. (Plate VI. *in orig.*)

Ceyx argentata, Tweeddale, Ann. & Mag. Nat. Hist. (4) xx. p. 533, ♀ (1 December 1877)*.

[Dinagat, ♀, June: iris brown; bill black; feet pale reddish.]

♀. Chin, throat, upper breast, abdomen, ventral region, major under wing-coverts, and thigh-coverts pure white. Cheeks, sides of head, and ear-coverts black. Lower breast and flanks black, washed with deep blue. Rectrices and under tail-coverts black. Plumage above black; a bold supercilium commencing above the eye and running into the occipital crest, formed by the component plumes being tipped with pale silvery blue; many of the feathers of the vertex minutely tipped with silvery blue. Occipital crest tipped with pale silvery bluish green, or silvery blue, or the two together. Dorsal plumage and lengthened upper tail-coverts black at base, then silvery bluish green, then pale silvery blue. Wings black. Major coverts each with a terminal silvery-green spot. Loral spot white; an isolated tuft on the sides of neck, white tipped with creamy fulvous. Bill black.

Wing 2·62 inches, tail 1·37, tarsus 0·45, culmen 1·50.

8. Sauropatis chloris (47).

[Dinagat, ♀, June.]

9. Pyrrhocentor melanops (65).

[Nipah, ♀, July.]

10. Penelopides affinis.

Penelopides affinis, Tweeddale, Ann. & Mag. Nat. Hist. (4) xx. p. 534 [*anteà*, p. 562]; P. Z. S. 1877, p. 824 [*anteà*, p. 550].

[Dinagat, ♂, June: iris crimson. *a*. ♀, June: iris rather dark brown-orange.]

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* [*Anteà*, p. 561.—Ed.]

11. Graucalus striatus (74).

[Nipah, ♂ ♀, July: iris Naples-yellow.]

12. Lalage dominica (76).

[Dinagat, ♂ ♀, June.]

P.Z.S. 1878, p. 109. 13. Hyloterpe philippinensis (78).

[Dinagat, ♂, June; *b.* ♀: iris dark brown; bill black; legs bluish grey.]

Sexes alike—not to be distinguished from the type.

14. Dicrurus striatus.

Dicrurus striatus, Tweeddale, P. Z. S. 1877, p. 545. no. 20. [*Anteà*, p. 469.]

[Nipah, ♂, July.]

15. Leucocerca nigritorquis (83).

[Dinagat, ♀, June.]

16. Cyornis philippinensis.

Cyornis philippinensis, Sharpe, Tr. Linn. Soc. ser. 2, Zool. i. p. 325, "Panay" (1876).

[Dinagat, ♂, June.]

A single example, hardly separable from Zebu individuals, and agreeing with them in dimensions, consequently larger than Luzon and North-Mindanao specimens. Wing 3·66 inches, as against 2·95; tail 3·00, as against 2·75.

17. Hypothymis cœlestis. (Plate VII. fig. 1, *in orig.*).

Hypothymis cœlestis, Tweeddale, Ann. & Mag. Nat. Hist. (4) xx. p. 536, ♀ (1 Dec. 1877)*.

[Dinagat, ♀, June: iris dark-brown; bill blue, tipped and margined black; interior of gape yellow-green; orbital ring light green; legs grey-blue.]

♀. Azure. Feathers of the head grey at their insertion, and each tipped with glistening azure; a lengthened occipital crest similarly marked. Space before the eye and lores pale blue. Chin, cheeks, throat, sides of neck, and upper breast rich velvety turquoise-blue, darker than the blues of the rest of the plumage. Back and upper tail-coverts with grey bases to the feathers, the extremities being blue, which is paler on the upper tail-coverts. Wing-coverts of the same shade of blue as the head. Quills dark brown externally, margined with a paler shade of blue. Lower breast, abdomen, vent, flanks, and under tail-coverts white, tinged with pale greenish blue, most intense on the flanks. Axillaries grey, tinged with pale blue. Rectrices above like the quills; underneath dark brown like under surface of the quills. Shafts of the rectrices brown above, almost white underneath. Shoulder-edge blue.

Wing 2·82 inches, tail 3·00, tarsus 0·62, culmen 0·56.

A form nearly allied to *H. azurea*, but differing in its lengthened crest, its paler tints of blue, and in the absence of any black markings. The blue shade of the throat and upper breast is about equal in tint to that of the predominant colour of the older known species.

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* [*Anteà*, p. 564.—Ed.]

18. Hirundo javanica.

Hirundo javanica, Sparrm. Mus. Carls. fasc. iv. t. 100 (1789).

[Dinagat, ♂, June.]

19. Sarcophanops steerii.

P.Z.S. 1878, p. 110.

Eurylæmus steerii, Sharpe, 'Nature,' vol. xiv. p. 297, "Basilan."

Sarcophanops steerii, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 344, t. liv.

[Dinagat, ♀, June: iris brilliant sap-green; bill, orbital skin, and legs fine blue, paler on the tarsal scales; nails light grey.]

20. Broderipus acrorhynchus (90).

[Dinagat, ♂, June.]

21. Mixornis capitalis. (Plate VII. fig. 2, *in orig.*)

Mixornis capitalis, Tweeddale, Ann. & Mag. Nat. Hist. ser. 4, xx. p. 535 (Dec. 1, 1877)*.

[Dinagat, ♀, June: iris orange; bill blackish grey; legs greenish lead-grey; soles and nails ochreous yellow.]

♀. Forehead, vertex, and occiput rufous, each feather with a pale fulvous central streak. Space before the eyes and lores dull grey. Cheeks, ear-coverts, and sides of neck ashy, each feather with a pale albescent central streak. Nape, back, and wing-coverts the same, the pale striations on the back being very prominent in consequence of the abnormal length of the dorsal plumage. Uropygium and upper tail-coverts olive rusty grey and unstriated. Rectrices brown; outer pair with the whole outer and apical third of the inner web pale yellowish white; remaining pairs, middle excepted, broadly tipped on both webs with white, middle pairs slightly tipped with white. All the quills brown, narrowly margined externally with fulvous grey, the tertiaries with pale rusty. Basal portion of quills margined on their inner webs with white. Chin and throat rufous and rufous-white. Breast, under wing-coverts, abdomen, vent, and under tail-coverts white, faintly tinged with very pale yellow.

Wing 2·75 inches, tail 2·50, tarsus 0·70, culmen 0·62.

22. Macronus striaticeps.

Macronus striaticeps, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 331, "Basilan" (1876).

[Dinagat, ♀: iris white.]

The type specimen is not quite so rufous below, otherwise identical.

23. Ixus goiavier (99).

[Nipah, ♀, pairing, July.]

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* [*Anteà*, p. 563.—Ed.]

24. POLIOLOPHUS UROSTICTUS (101).

[Dinagat, ♂, June: orbital ring lemon-yellow. *b*, ♀, June.]
Sexes alike.

25. CRINIGER EVERETTI.

Criniger everetti, Tweeddale, Ann. & Mag. Nat. Hist. ser. 4, vol. xx. p. 535 [*anteà*, p. 563], et P. Z. S. 1877, p. 827, pl. lxxxiv. [*anteà*, p. 553].

[Dinagat, ♂ ♀, June.]

P.Z.S. 1878, p. 111.

26. ORTHOTOMUS FRONTALIS.

Orthotomus frontalis, Sharpe, Ibis, 1877, p. 112, t. ii. f. 1; Tr. L. S. (2) Zool. i. p. 336.

[Dinagat, ♂ ♀, June.]

27. ZOSTEROPS EVERETTI.

Zosterops everetti, Tweeddale, P. Z. S. 1877, pp. 762, 829. [*Anteà*, pp. 536, 555.]

[Dinagat, ♂, June: iris yellowish brown; bill blackish; legs pale grey. *b*, ♀, June.]
Dinagat, North-Mindanao, and Zebu birds do not differ.

28. DICÆUM RUBRIVENTER (120 partim).

Dicæum rubriventer, Lesson, Tr. p. 303; Tweeddale, P. Z. S. 1877, p. 763. [*Anteà*, p. 536.]

[Dinagat, ♂, June.]
The Dinagat birds in no respect differ from Luzon, Zebu, and North-Mindanao examples.

29. DICÆUM SCHISTACEUM. (Plate VIII. fig. 1, *in orig.*)

Dicæum schistaceum, Tweeddale, Ann. & Mag. Nat. Hist. ser. 4, vol. xx. p. 537 (December 1, 1877). [*Anteà*, p. 564.]

[Dinagat, ♂, June.]

♂. Above fuliginous ashy; below ashy white. Remiges and rectrices above dark ashy brown, underneath paler. Under wing-coverts and axillaries pure white. Base of mandible (in dry specimens) yellowish white. Apex and the maxilla pale ruddy brown.

Wing 2·25 inches, tail 1·37, tarsus 0·62, culmen 0·35.

A large species with a short stout bill.

30. DICÆUM EVERETTI. (Plate VIII. fig. 2, *in orig.*)

Dicæum everetti, Tweeddale, Ann. & Mag. Nat. Hist. ser. 4, vol. xx. p. 537 (December 1, 1877). [*Anteà*, p. 564.]

[Dinagat, ♂, June: iris greyish brown; bill brown, base orange; legs light grey.]

♂. Above dark olive-green, paler on the cheeks. Chin, throat, and breast pale grey. Remainder of underparts albescent grey tinged with palish yellow. Major coverts narrowly margined with greenish yellow. Quills above dark brown, almost black, with very narrow pale olive-green external margins. Rectrices above like the quills, narrowly tipped with albescent fringe. Under wing-coverts and axillaries pure white. Bill (dry specimen) brown at tip, yellow at base.

Wing 1·94 inch, tail 1·00, tarsus 0·50, culmen 0·37.

31. Prionochilus olivaceus. (Plate VIII. fig. 3, *in orig.*)

Prionochilus olivaceus, Tweeddale, Ann. & Mag. Nat. Hist. ser. 4, vol. xx. p. 536 (December 1, 1877). [*Anteà*, p. 564.]

[Dinagat, ♀, June: iris sienna-brown; bill grey-black, base of mandible paler; legs light grey.]

♀. Entire upper surface, wing-coverts, and surface of closed wing uniform pure olive-green, P.Z.S. 1878, p. 112. which colour encircles the eye and covers the sides of the neck. Space before the eye, cheeks, sides of throat, and the upper breast grey. Lower breast, abdomen, flanks, and under tail-coverts the same grey washed faintly with olive-green, the mesial line being albescent. Chin and throat white, slightly greyish, forming a broad, well-defined greyish-white stripe, commencing at the chin and descending to the breast. Axillaries and under wing-coverts pure silky white. Remiges and rectrices dark brown, margined with the olive-green hue of upper plumage.

Wing 2·12 inches, tail 1·25, tarsus 0·62, culmen 0·37.

Since I described this species (*l. c.*) I have received the male, which in no way differs.

32. Nectarophila sperata (122).

[Dinagat, ♂, June; *b.* ♀: iris brown; bill very dark brown; legs black. *c.* June: iris dark brown; bill black, mandible brown; legs black. *d.* ♂ (juv.), June: iris dark brown. *e.* Nipah, ♂, July.]

I cannot separate example *d* (♂ juv.) from examples *b* and *c* (♀). A slight supercilium, chin, throat, cheeks, and whole lower surface pale uniform greenish yellow, above olive-green. They differ from a supposed female, ex Surigao, described (P. Z. S. 1877, p. 830) by having the chin, throat, and cheeks uniformly coloured with the breast and abdomen, but agree in the ruddy colouring of the wing when closed. A fourth example (sex not stated on label) is undistinguishable from the Surigao female previously described (*l. c.*).

33. Arachnechthra jugularis (123).

[Dinagat, ♀, June.]

34. Æthopyga dubia, n. sp.

[Dinagat, ♂, June: iris yellow-brown; bill brown; legs dark grey; feet ochreous. *b*, ♂, June: bill and legs very dark brown. *c.* ♀, June: iris bright Indian-red; bill black; legs light brown.]

♂ (juv.?). Above, wing-coverts, and exposed surface of quills olive-green. Uropygium bright sulphur-yellow, forming a broad yellow band. Rectrices black, edged with olive; laterals tipped with pale yellow-olive. Feathers of the lower surface ashy at their base, and all tipped pale yellow; lores the same; cheeks rather albescent-ashy. Under wing-coverts white; carpal edge very pale yellow. Quills dark brown.

♀. Like the male above described.

	Wing.	Tail.	Tarsus.	Culmen.
♂	1·82	1·12	0·62	0·75
♀	1·80	1·00	0·62	0·75

The three examples on which this species is founded are difficult to distinguish, by their
P.Z.S.1878, p. 113. plumage alone, from *Æ. bella* ♀ vel ♂ juv.; but the dimensions are considerably greater:—
culmen 0·75, as against 0·50; wing 1·80, as against 1·62. Doubtless the adult male will closely
resemble that of *Æ. bella*.

35. Anthothreptus griseigularis.

Anthothreptus griseigularis, Tweeddale, P. Z. S. 1877, p. 830. [*Anteà*, p. 557.]

[Sakuyok, ♂, July.]

36. Rhabdornis mystacalis (124).

[*a*. Dinagat, ♂, June: iris crimson; bill black. *b*. ♂: legs yellowish brown. *c*. ♂: legs dark grey.]

The only female in a series of seven examples wears the same dress as the males. Luzon individuals do not differ.

37. Corvus philippinus (125).

[Dinagat, ♂ ♀.]

Female smaller than male.

38. Calornis panayensis (128).

[*a*. Nipah, ♂ ♀, July. *b*. Sakuyok, ♀, July.]

39. Sarcops calvus (129).

[Dinagat, ♂, June.]

40. Osmotreron axillaris (136).

[Dinagat.]

A single example (♂), which cannot be separated from typical individuals.

41. Phabotreron amethystina (139).

[Dinagat, ♀, June: iris yellowish brown.]

This, Luzon, and N. Mindanao (Butuan) examples do not differ.

42. Phabotreron brevirostris.

Phabotreron brevirostris, Tweeddale, P. Z. S. 1877, p. 549. [*Anteà*, p. 473.]

[Dinagat, ♀, May.]

Undistinguishable from N. and S.W. Mindanao examples.

43. Carpophaga ænea (141).

[Dinagat.]

44. Myristicivora bicolor (143).

[*a.* Nipah, ♀, July: iris dark brown; bill blackish blue; feet light lead-blue. *b.* Sakuyok, ♂, July.]

45. Hemiphaga poliocephala (144).

[Dinagat, ♀, June. Iris Indian-yellow, passing into red on outer circumference; orbital ring and patch crimson; bill black; feet carmine; nails dark grey.]

46. Ortygometra cinerea (172).

P.Z.S.1878, p. 114.

[Dinagat, ♀, June: iris crimson.]

47. Hypotænidia torquata (177).

[Dinagat, ♀, June.]

48. Butorides javanica (197).

[*a.* Dinagat, ♀; *b.* Nipah, ♂ ♀, July: iris bright yellow; legs bright chrome-yellow.]
No date on label of Dinagat example, but killed in June.

49. Dysporus sula (214).

[Dinagat, ♂, June: iris white; feet light leaden-green; bill whitish green.]
In full white and rich brown plumage. Wing 15·30, tail 10·00, culmen 3·90, tarsus 1·60.

On a new Philippine Genus and Species of Bird. By Arthur, Marquis of Tweeddale, F.R.S., President of the Society. [From the 'Proceedings of the Zoological Society of London,' read January 15, 1878[‡], Plate IX. *in orig.*]

P.Z.S.1878, p. 114.

Until Dr. Steere some three years ago discovered in the island of Basilan two species[*] belonging to the *Timeliidæ*, this natural family, so characteristic of the Indian region, was supposed to be unrepresented in the Philippines. Since then Mr. Everett has discovered a third species[†] in the island of Dinagat, and a fourth, the subject of this note, in the island of Negros. This last bird is so anomalous in its structure that I propose to constitute it the type of a new genus.

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[*] *Macronus striaticeps*, Sharpe, and *Dendrobiastes basilanica*, Sharpe.

[†] *Mixornis capitalis*, Tweeddale.

[‡] [Published June 1, 1878.—Ed.]

DASYCROTAPHA *.

Base of maxilla densely clothed with short feathers, space behind the eye naked. Bill about the length of head, and formed as in *Mixornis.* Wing lengthened, longer than tail, first primary half the length of the second, which is a fifth shorter than the third, third a little shorter than the fourth, which is equal to fifth and sixth. Tail moderate and square. Tarsus strong; hallux with claw stout and long; digits short, slender; outer a little shorter than inner.

DASYCROTAPHA SPECIOSA, sp. nov. (Plate IX. *in orig.*)

P.Z.S. 1878, p. 115.

Head crested; forehead with dense short plumes covering the base of the maxilla; circle round the eye, whole space before the eye, tuft on the side of the base of mandible, chin and uppermost part of throat pure lemon-yellow; crown of the head black; postoccipital plumes yellow; nape yellowish green tipped with black; a lengthened tuft of plumes springing from above the eye bright orange; a line immediately below this tuft black; a tuft of stiff decomposed feathers springing from below the eye and extending over the ears white or greyish white; an irregular band across the throat black; dorsal feathers grey with light olive-green tips and white shafts; uropygium yellowish green; upper tail-coverts the same, tinged with rufous; lower throat and upper breast bright yellow, most of the feathers with black terminal drops; lower breast and rest of under plumage duller yellow tinged with green on the flanks; quills brown margined with yellowish olive-green, inner margin of quills pale yellow; wing-coverts dull olive-green, carpal edge and wing-lining yellow; tail dull rufous.

Wing 2·62, tail 2·37, tarsus 0·87, culmen 0·75.

Hab. Valencia, island of Negros, ♂, August. Iris crimson; bill orange-yellow. (*Everett.*)

The hereditary affinity of this new form with *Macronus striaticeps* and *Mixornis capitalis* is betrayed by the colouring and markings of the dorsal plumage.

Ibis, 1878, p. 69.

Notes on the Dicruridæ, *and on their Arrangement in the Catalogue of the Collection of the British Museum* †. By ARTHUR, Marquis of TWEEDDALE. [From 'The Ibis,' January 1878.]

THE Dicruridæ constitute a natural, self-contained, sharply defined family, which has its members ranging throughout the Ethiopian and Indian regions and the Austro-Papuan, including the Moluccas. One, and only one, appears to be migratory, *Buchanga leucogenys,* which reaches Japan in the summer months. As indicated by the form of the beak, the presence of strong rictal bristles, the short tarsus, short toes, and ankylosed first phalanges of the outer and middle toes, the *Dicruri* are Muscicapine in their affinities; and this relationship is unmistakably exhibited in their habits. All the species of which the ways have been recorded, have the habit of descending from their perches to catch insects on the wing, and then immediately returning to the same or some adjoining place of rest. Some species, such as members of the genera *Bhringa*, *Chaptia*, *Dissemurus*, and several of the genus *Buchanga*, never descend to the ground, but capture their prey entirely on the wing. *Edolius forficatus*, according to Pollen ('Faune de Madagascar'), has similar habits. Those species that do descend to the ground, such as *Buchanga atra*, do so to seize their food, and only remain for a short time. This last-named species has the useful habit, where there are extensive plains of long dry grasses without suitable trees or bushes, of sitting on the backs of antelopes, sheep, cattle, &c., using them as beaters, and catching on the wing the insects disturbed by the feet of the grazing animals. The feet in all the *Dicruri* are essentially constructed for grasping, by which, together with the lengthened tail, walking is rendered difficult, if not altogether impossible. During a seven years' residence in India, I never once observed the common King-Crow (*Buchanga atra*) move along the ground; and it is the most widely spread and least specialized of all the Asiatic species. The flight of all is short, but rapid while it lasts. Most writers, and certainly all those who have observed members of this family in a wild state, must agree with Jerdon in classing the *Dicruridæ* between the Shrikes and the Flycatchers; and I venture the opinion that it will require a more comprehensive and stronger character than that of the relative position of the nares and the chin-angle before ornithologists will concur in associating them with the Crows and the Orioles.

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* *δασύς, villosus,* et *κρόταφοι, tempora capitis.*

† Catalogue of the Passeriformes in the Collection of the British Museum.—*Coliomorphæ.* By R. Bowdler Sharpe. (1877.)

Ibis, 1878, p. 70.

It is not proposed in the following notes to debate whether the Coliomorphæ of Mr. Sharpe constitute a natural or an unnatural and highly artificial group. Their object is rather to notice a few errors which it seems desirable in the interest of science to correct before they pass into general circulation, and before they become adopted, as they naturally will be, by authors influenced by the high authority of the work in which they appear. This volume of the Catalogue of Birds, as well as the two it follows, deserves our acknowledgment; and whether we approve or disapprove of the classificatory system adopted, we cannot withhold the expression of our satisfaction at the diligence it discloses. If there are in it important omissions, occasional errors, and evidences of a desire to create new species on grounds less valid than those considered by the author insufficient to support the species of others, it is certainly more owing to lack of leisure than to a disinclination to labour. The systematic arrangement of the species by Mr. Sharpe seems in some cases artificial, and not always to be unlocked by the key he supplies for the genera. There is also a certain inconsistency displayed in the discrimination of the species; but it must be acknowledged that some of these are exceedingly difficult to make out.

The prevailing colour of the Dicruridæ is black—the only character they have in common with the Crows. In some all the plumage is burnished with metallic reflections, in others partly so. A few wear an ashy-coloured dress, with more or less of a silky gloss; and in four of the species pure white enters into the mature coloration. Specific differences are therefore not easily to be established by slight variations in colour; and structure becomes the most available guide. The nasal and frontal plumes and the rectrices are the parts which exhibit the greatest tendency to specific development or variation; and in some, such as in the species falling under *Dissemurus*, the structure of the outer pair of rectrices is very unstable, the tendency being to revert back to the fully webbed feathers. I have met with examples of *D. brachyphorus*, *D. malabaricus*, *D. platurus* (ex Sumatra), and *D. paradiseus* with the outer pair of rectrices flattened and fully webbed throughout their length, as is always the case in *D. megarhynchus* and *D. lophorhinus*.

Ibis, 1878, p. 71.

The nasal and frontal plumes occur, according to the species, in every stage of development, reaching to a fully webbed, lengthened, and voluminous overhanging frontal crest in *D. grandis*; while in *Chibia hottentotta* the nasal plumes are even more lengthened, but the webs of the longest are obsolete. A parallel instance in other genera occurs in *Edolius forficatus*, in which species the nasal plumes are developed into a short erect bunch of webbed feathers, while in *Buchanga andamanensis* the erect shafts are webless. The tendency of the outer pair of rectrices to twist, whereby the full growth of the inner is probably checked, is indicated in every species in which the outer pair is abnormally lengthened relatively to the remaining pairs. The amount and distribution of the metallic burnishing on parts of the plumage is another direction in which specific variation exhibits itself. Now if, instead of an exaggeration or abortion of a frontal crest for instance, the variation of a species showed itself by some constant mark of a different colour, or even shade of the same colour, the specific distinctness of the species possessing it would be readily admitted. Mr. Sharpe ignores such differences—for example, in the genus *Dissemurus*, and unites all the races which have been separated by previous authors; and yet he makes a new species, *D. ceylonensis*, upon grounds even less sufficient.

Dicrurus[*].—Under this genus Mr. Sharpe places three African species, and associates them with two Philippine and a Malaccan species which extends to the Himalayas. We thus have the small South-African *D. ludwigi* made congeneric with *D. balicassius*; and although "tail nearly square, outer feathers not curved upwards," constitutes in the key the differentiating generic character, *D. annectens* with its considerably forked tail and twisted outer rectrices finds a place in the genus. Ibis, 1878, p. 72.

Dicrurus annectens is an incipient species of a crestless *Dissemurus*, on the confines of which genus it should be placed.

Dicrurus atripennis, *D. modestus*, *D. ludwigi*.—These three African species cannot be generically separated from *D. assimilis* (ranked as a *Buchanga* in Mr. Sharpe's Catalogue). The four known African species of the family form a natural group with subfurcate tails, and should be kept distinct under Reichenbach's title *Musicus*. The continental *Dicrurus coracinus* is not kept separate from the insular *D. modestus*, on the ground that the only tangible distinction is one of dimensions. This sound principle, as will be shown further on, is not always acted upon.

Chibia.—All the Austro-Papuan and Moluccan species with nearly square tails are included under this genus by Mr. Sharpe. The arrangement does not appear to be natural. *Chibia hottentotta*, the type of the genus, is an isolated form with a curved mandible. The gonys is curved, and does not rise from the chin-angle in a straight line. The bird is to some extent a flower-pecker, and clings to the twigs of large flowering trees, searching for its food in the calyx and among the petals of each blossom; and although little has been recorded of the habits of the Papuan species, their bills are formed on a model such as that of any species of *Dissemurus*, and apparently are not adapted for exploring flowers. "All the principal groups of the Indo-Malayan islands" are brought by Mr. Sharpe within the area inhabited by the members of the genus *Chibia* as defined by him, while China is omitted. With the exception of Lombock and Flores, I am not acquainted with any Indo-Malayan island which is inhabited by any one of its members.

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[*] Vieillot established this genus in his 'Analyse,' 1816—that is, at a date anterior to and in a work different from the one quoted by Mr. Sharpe.

As yet not one has been recorded from the three large Sunda Islands, nor from the Philippine archipelago; nor has one been found at Malacca. Exclusive of *C. hottentotta*, the species form a natural section of the *Dicruridæ*, limited in distribution (with the exception of *D. bimaënsis*) by the bounds of the Austro-Papuan area, the Moluccas inclusive, *D. leucops* and *D. pectoralis* dwelling on its confines in Celebes and the Sula Islands. Ibis, 1878, p. 73.

Chibia hottentotta.—The title given to the Chinese race of this species (*brevirostris*) and its reference (Mus. Hein. i. p. 112. no. 603) are not to be found in the list of synonyms, although *C. brevirostris* is considered by Mr. Sharpe as being specifically inseparable. An examination of the type specimen at Halberstadt, and a comparison made with forty examples from China, lead me to the same opinion. The bill is slightly shorter; but that is all.

The "long silky hairs" of Mr. Sharpe, which spring from the base of the maxilla in *C. hottentotta*, and, recurved back, fall over the nape, are really the denuded shafts of a certain number of the frontal plumes. Under a lens the aborted rudiments of the lateral webs can be readily detected. Behind these denuded shafts are usually a number of elongated frontal crest-plumes in different states of perfection.

CHAPTIA.—Three species are admitted; yet, as Mr. Sharpe employs the expression "subspecies" for forms which, in his opinion, are closely allied, it is not easy to detect his reasons for allowing *C. malayensis* and *C. brauniana* to stand as full species. The former is little else than a smaller form of *C. ænea*, while the latter is hardly distinguishable at all.

BUCHANGA.—Hodgson formed this genus for the reception of *B. albirictus* * and *B. annectens*. The latter species is scarcely congeneric with the former; but all the long- and deeply forked-tailed Asiatic species constitute a natural group, to which Hodgson's generic title is generally applied. Mr. Sharpe includes in the genus an African species †, which has hitherto, and apparently with good reason, been classed under a separate section.

Buchanga atra.—Under the specific title given by Hermann to the common King-Crow of Southern India Mr. Sharpe includes all the forms which inhabit Ceylon, India, Burma, China, and Java. None of the races which by different authors have been separated under distinctive titles are allowed even to rank as subspecies ‡. This is an easy way of disposing of one of the most difficult points which occur among the Dicruridæ; but it by no means exhausts the question. Ibis, 1878, p. 74.

Mr. Sharpe observes (p. 246) that he "cannot understand why Vieillot's title of *macrocercus* applies particularly to the Javan bird." It was founded on *Le Drongolon* of Le Vaillant (Ois. d'Afr. t. 174), who omitted to state the origin of his type. The assumption that it came from Java merely rests on its probability; and so far Mr. Sharpe is entitled to his doubt. But then, if the origin of the type cannot be established, why does Mr. Sharpe adopt its title for his variety *a*, which includes all the British-Museum specimens of the Indian continental races, and for which Hermann's title of *atra* is the oldest and is strictly applicable?

The totally distinct African species, *D. assimilis* (Bechst.) =*D. musicus*, Vieillot, is treated of as a subspecies of *B. atra*. It is the predominant and most widely distributed Dicrurine form in Africa, and varies according to locality almost as much as *B. atra* does in Asia, several races having received distinctive titles.

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* Mr. Sharpe gives *B. macrocerca* as the name of the type—a title he does not admit when dealing with the species.

† *D. musicus*, Vieill.=*C. adsimilis*, Bechst.

‡ As Mr. Sharpe permits *Dissemuroides dicruriformis* to stand as a subspecies separate from *D. andamanensis*, and *Buchanga insularis* as a subspecies of *B. cærulescens*, the principle on which, for instance, *B. minor* is united with *B. albirictus* is not very apparent.

Buchanga longicaudata.—A British-Museum example, "purchased," of this species is recorded with Ladakh for its origin. A note of interrogation after the name of this eccentric habitat would not have been misplaced. In contradistinction to Mr. Hume, Mr. Sharpe readily admits, as had already been admitted long ago by Jerdon and Blyth, the absolute specific distinctness of this well-marked species. It is the *Dicrurus himalayanus*, Tytler (Himalayan race), which title is made a synonym of *Buchanga atra* in the Catalogue.

Ibis, 1878, p. 75. *Buchanga cineracea*.—For the grey species of *Buchanga* which inhabits Java Horsfield's title is adopted, and that of *leucophæus*, Vieillot, is omitted, together with Le Vaillant's plate (Ois. d'Afr. 170) and description, on which Vieillot founded his title. While there may be some grounds for doubting the precise origin of *Le Drongolon*, there can be no question about *Le Drongri*. Le Vaillant could only have obtained his types from Java; and even if he got them from Burma, or from any other part of the area the species inhabits, the validity of the title would not be affected. It is true that Le Vaillant states with much precision that his specimens came from Ceylon; but no such species inhabits that island. In his account of *Le Drongri à ventre blanc*, l. c. (=*D. leucogaster*, Vieill., a description, plate, and title nowhere alluded to by Mr. Sharpe), Le Vaillant says that his type came from Batavia, and that its upper plumage is exactly the same as that of *Le Drongri*. His description of the upper plumage of both species is given in similar terms; and their colouring, as shown by the plates (170, 171), is the same. The type of *Le Drongri* is, I believe, no longer extant (indeed Le Vaillant described from desiccated specimens); but that of *Le Drongri à ventre blanc* was, when I visited Leyden some years ago, in perfect preservation. An examination of this type specimen, and a comparison of it with an authentic Javan example of *D. leucophæus*, convinced me that the type was manufactured, and made up of a specimen of *Le Drongri* (*D. leucophæus*) with the white plumage of some other bird affixed to the underparts, so as to replace the bluish-grey lower plumage of *D. leucophæus*. On expressing this conviction to Professor Schlegel, he most obligingly desired his taxidermist to test the specimen. This having been done by means of applying heat, the taxidermist was enabled to strip off the whole of the white under-plumage from the chin to the crissum in one piece. This, skin and all, appeared to have been taken from the under surface of *Coccystes jacobinus*, and, after having been fitted, to have been glued on to the plucked chin, throat, breast, and abdominal skin of *D. leucophæus*. There can be no possible doubt therefore that Vieillot's title of *leucophæus* is applicable to the Javan bird, and that Horsfield's title of *cineraceus* must be superseded—a conclusion which has been generally accepted for many years, but which is now, *ex cathedrâ*, upset in this Catalogue without any reason assigned. Ibis, 1878, p. 76.

In the synonyms of the various species catalogued by Mr. Sharpe he omits altogether the wholesome and useful practice adopted by most accurate authors of giving, either with or without brackets, according to the generic title employed, the name of the original author of the species, before that of the author using the title. The extreme inconvenience of this practice meets the student on every page; but it is very forcibly illustrated in the synonyms given of this species and of *B. leucogenys*. In the first case, the title *D. leucophæus* is attributed to Gray (*nec* V.

being added), which mode of writing implies that the title of *leucophæus* was bestowed by Gray as well as Vieillot; all reference to Vieillot's title, however, being omitted. Under *B. leucogenys* we find the synonym *D. leucophæus*, Swinh. (*nec* V.), no reference to Vieillot being given; and lower down simply "*D. leucophæus*, Gray," without the intimation that it is not some one else's species. To an author deep in the mysteries, say of the 'Nouveau Dictionnaire,' this style of noting the titles used by different authors, though troublesome, would not render his search hopeless; but to a student it would involve that loss of time which it is the very object of a careful writer to save him. There are also many instances of birds which have received from different authors, unknown to one another and at different periods, the same specific title, e. g. *Hypsipetes philippinensis*, described separately by three different authors under the title of *philippinensis*. Again, there are some authors who would object to having some recent titles made to appear as if coined by them. But the main object of the synonymy ought to be to lead the student direct to all that has been written of importance relating to the species; and the method adopted by Mr. Sharpe does not in many cases fulfil this condition.

Buchanga insularis.—This, it is to be presumed, is a new title proposed by Mr. Sharpe for some undescribed Ceylonese subspecies of *Buchanga*. "*B. cærulescens*, Holdsworth, *nec* Linn." is added as a synonym. Ibis, 1878, p. 77. Mr. Holdsworth included the Linnæan species in his list (P. Z. S. 1872, p. 439) on the authority of Mr. Layard, who states (Ann. & Mag. N. H. ser. 2, xiii. p. 129) that he procured one or two specimens of *D. cærulescens* at Point Pedro (the extreme north of Ceylon), a very likely locality for this Indian species. Mr. Sharpe, on the authority of Capt. Legge, gives as its range "the whole east of Ceylon and central province, eastern district." *B. insularis* is introduced by Mr. Sharpe as a subspecies of No. 6. *B. cærulescens*; but when writing on No. 7. *B. leucopygialis*, a species very distinct from *B. cærulescens*, Mr. Sharpe says, "very similar to *B. insularis*, if, indeed, really separable." Of which of the two very distinct species, *B. cærulescens* or *B. leucopygialis*, is *B. insularis* then a subspecies? And why should the species obtained at Point Pedro by Mr. Layard, and identified by him as belonging to the continental species, *B. cærulescens*, be considered by Mr. Sharpe to belong to his new subspecies? We shall not be very far wrong if we reduce *B. insularis* to a synonym of *B. leucopygialis*, and if we continue to retain, on Mr. Layard's authority, *B. cærulescens* as an inhabitant of, or migrant to, North Ceylon.

Buchanga waldeni is, by the formation of its massive bill, closely allied to *Dicrurus forficatus*; and through it Mr. Sharpe passes to the latter species, which he keeps separate under *Edolius*, Cuv. *D. forficatus* is also the type of Reichenbach's genus *Drongo* (Syst. Av. t. lxxxviii.), a title which is omitted in the synonymy of the genus.

Dissemuroides andamanensis and *D. dicruriformis.*—These are the titles adopted for two races of a species, the first an inhabitant of the Andamans, the other of Great Coco and Table Islands. The two races merely differ in size, the latter being somewhat the largest. Those who regard an excess of a few tenths of an inch in the principal dimensions of birds of this size, or of a few grains in the weight, as constituting specific and differentiating characters, will follow Mr. Sharpe and keep these two birds apart; for he admits *D. dicruriformis* into the Catalogue as a distinct subspecies of *D. andamanensis*. The difference in the colouring of the "gloss," alluded to by Mr. Sharpe, is not observable in the large series from both localities to which I have access. Ibis, 1878, p. 78.

D. andamanensis is almost a typical *Buchanga*. It has all the habits of the continental species (*teste* Davison, Str. F. 1874, p. 211); and the tail is deeply forked, as in the common King-Crow. A few of the erect frontal plumes being somewhat lengthened and denuded of their webs can scarcely constitute a generic character; and this is not relied on by Mr. Sharpe; while the only differentiating generic character given by him seems to be still less distinctive, namely, "outer tail-feathers recurved at tip." Indeed, if a character at all, it is a family characteristic; for in all the Dicruridæ there is a marked inclination in the outer pair of rectrices, when produced, to recurve inwards.

Dissemuroides edoliiformis.—For this species Mr. Sharpe has rejected Vieillot's title of *lophorhinus*, which was adopted many years ago by Sundevall, and has been in general use ever since, although he admits Le Vaillant's plate of *Le Drongup* (Ois. d'Afr. 173) to represent Blyth's species, and on this plate and description Vieillot founded his title*. On the other hand, Mr. Sharpe makes Vieillot's title (*lophorhinus*) a synonym of *D. forficatus*, a species named *cristatus* by Vieillot, from another of Le Vaillant's plates (*t. c.* 166). Le Vaillant, in his account of *Le Drongup*, shows in what manner it differs from *Le Drongo* (=*D. forficatus* (L.)=*D. cristatus*, Vieill.), and mentions its larger dimensions and the shortness of the frontal crest as being points of difference. The large size, the small frontal crest, and the absence of rackets make the identification of *D. lophorhinus* with this peculiar Ceylonese species a matter of certainty. And Ibis, 1878, p. 79. an examination of Le Vaillant's type specimen, labelled *Le Drongup*, at Leyden, enabled me some years ago to assert its identity (Ibis, 1867, p. 468)†. This is a second instance in this family where Mr. Sharpe appears to have rather hastily rejected the nomenclature adopted by previous writers.

D. lophorhinus is an aberrant form of the genus *Dissemurus*. It is, if the term may be used, a transition species. If the shafts of the outer pair of rectrices were denuded for part of their length, and only webbed at their extremity, it would be a typical *Dissemurus*. Unless the structure of the outer pair of rectrices be taken into account, the bird is difficult to distinguish from *D. malabaricus*, ex Ceylon and Malabar. In the key to the species of *Dissemuroides*, *D. lophorhinus* (sive *edoliiformis*) is stated to be smaller than *D. andamanensis*, whereas it is larger.

The structure of *D. andamanensis* and *D. lophorhinus* being so dissimilar, I cannot concur in associating them together, much less in forming for their reception a separate genus; and it seems preferable, and more consistent with their peculiarities of structure, to place the first species under *Buchanga*, the last under *Dissemurus*, and to reject the generic title *Dissemuroides* altogether.

Dicranostreptus megarhynchus.—This single species, the type of Reichenbach's genus, does not possess any one character sufficient to remove it from the genus *Dissemurus*. Mr. Sharpe admits *Dicranostreptus* as a good genus on the strength of the extravagant length of the outer tail-feathers. In both *Bhringa* and *Dissemurus* the outer tail-feathers are extravagantly long, in the first being more than three times the length of the body; but, taken alone, the great length of an outer rectrix can hardly be considered a sufficient generic character. The outer rectrix in *D. megarhynchus* only differs from that in *Dissemurus* in having the lengthened shaft webbed throughout its entire length, this being normal in the species, whereas, although sometimes occurring, it is abnormal in the other species of the genus *Dissemurus*, except in *D. lophorhinus*. In the latter species the outer rectrix is generally completely webbed also, but is not nearly so much prolonged. The character is clearly only specific, and the generic title *Dicranostreptus* should be merged under *Dissemurus*. This bird is the *D. intermedius*, Lesson (Tr. d'Orn. p. 380*; *cf.* Lesson, Compl. Buffon, viii. p. 439, note 5 (1837)), a title altogether omitted by Mr. Sharpe. Both names were published in 1830; but that of the discoverer of the species should rightly prevail. Mr. Sharpe includes the Ké Islands, on Dr. O. Finsch's authority, within its range. But that author so attributed it (Neu Guinea, p. 171) on the authority of a specimen stated by Mr. Gray to have been obtained in the Ké Islands by Mr. Wallace (P. Z. S. 1861, p. 435); and there is every reason to believe that the title as it stands in Mr. Gray's "List of the new Birds collected by Mr. Wallace" (*l. c.*) is a misprint for *D. megalornis*, a real inhabitant of Ké. Mr. Sharpe omits to include the Solomon Islands, from which area it has been recorded by Mr. Sclater (P. Z. S. 1869, pp. 119, 124). Ibis, 1878, p. 80.

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* Vieillot gave (N. D. d'H. N. vol. ix.) Latin titles to all the nine species of *Dicruri* figured and described by Le Vaillant (Ois. d'Afr. iv.); but the number of the plate on which *Le Drongup* is figured is the only one he does not quote. It is manifest by the context that Vieillot merely reproduced Le Vaillant's descriptive words; indeed he uses Le Vaillant's very words; and under the word *Drongup* (*t. c.* p. 589) the reader is referred to *Le Drongo drongup*, V.=*D. lophorhinus*. Elsewhere and later (Enc. Méthod. p. 752) Vieillot quoted Le Vaillant's plate.

† [*Anteà*, p. 50.—Ed.]

Bhringa remifer.—This is the sole representative of the genus, and is one of the many Javan species which recur on the continent north of the Malaccan peninsula, although not found on the peninsula itself. Temminck states that it is also an inhabitant of Sumatra; but this assertion requires confirmation. It is nothing but a larger species of *Chaptia ænea*, with the shafts of the outer pair of rectrices enormously developed †, nude after surpassing the remaining rectrices, until the apices are reached, where the shafts are equally webbed on both sides. These ornamental plumes are only assumed during the breeding-season (*teste* Jerdon, B. India, i. p. 435). Admitting the validity of the genus, its natural position is next to *Chaptia*.

Dissemurus paradiseus.—All the racket-tailed Drongos are "lumped" by Mr. Sharpe under the above specific title, given by Linnæus to a bird from Siam described by Brisson from a drawing made by Poivre. It would require far more space than these limited notes afford to discuss whether convenience or accuracy have led to this result. In a former paper (Ibis, 1877, p. 313 ‡) a few remarks on the crestless races of the genus *Dissemurus* will be found; and to the conclusions there put forward I still adhere; but the discrimination of the crested species is undoubtedly more difficult, requiring a large number of specimens from all parts of the area inhabited to be critically compared before any trustworthy conclusions can be arrived at. Exclusive of *D. brachyphorus*, seventeen specimens are catalogued as being contained in the British-Museum collection—material hardly adequate when it is considered that some ten species have been discriminated by various authors, to which Mr. Sharpe has added an eleventh, *D. ceylonensis*. Any one comparing Ibis, 1878, p. 81.

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* It is true that (Ibis, 1877, p. 313) [*anteà*, p. 497] I referred this title to *D. platurus*; but it was with a note of interrogation.

† In a Tenasserim male (*mus. nostr.*), while the wing and the eight middle rectrices measure a little over five inches, the outer pair of tail-feathers measure nineteen and a half. The outside length given in the Catalogue is 17·2.

‡ [*Anteà*, p. 497.—Ed.]

a typical example of *D. grandis* (Gould)* with one of *D. malabaricus* (Scop.), ex Malabar, would scarcely hesitate to consider them as belonging to two very distinct species; but many intervening links occur, such as the true *D. paradiseus* and true *D. cristatellus* (Blyth), ex Tenasserim, in which the frontal crest is not so much developed as in the Nepal, nor so little as in the Malabar bird. But the variations in structure which differentiate the several local races of this genus, although well marked, would require a separate paper for their elucidation; and I shall therefore, for the present, content myself with pointing out a few errors that have inadvertently crept into Mr. Sharpe's summary of the genus.

D. platurus (Vieill.) is not from Java. Temminck (Pl. Col., sub *Edolius remifer*) remarks that Le Vaillant figured (Ois. d'Afr. t. 175) the bird brought from Malabar by Sonnerat. But whether this be so or not, *D. platurus* is not from Java, it being a crestless species. The correct title for the Javan species is *D. formosus*, Cab., founded on Javan examples, which I have examined at Halberstadt. Temminck's name *retifer* (Sharpe, p. 258, sed lege *setifer*), adopted by some authors for the Javan bird, must be altogether rejected, as it was bestowed on the Malabar, Sumatran, and Javan species in the belief that they were identical†. Temminck's title, *setifer*, is ignored by Mr. Sharpe, who leaves us to conclude that it was first bestowed by Jerdon on the South-Indian species. Ibis, 1878, p. 82.

The Tenasserim race Mr. Blyth described as distinct from the Malabar race; and to distinguish it he called it *cristatellus*. It has a less-developed crest than *D. grandis*, but a much longer one than the Malabar species. Notwithstanding, it will be found that in the Catalogue (p. 265) Blyth's title is assigned and restricted to the S.W. Indian species.

Under the new title of *D. ceylonensis* Mr. Sharpe has separated the Ceylonese from the S.W. Indian species, on account of the comparative smallness of its rackets. In all the specimens that I have examined from both localities this distinction does not hold good. It is impossible to discover any appreciable difference between mature specimens; but even if there were any, it is difficult to see how *D. brachyphorus* can be united to *D. grandis*, as is done by Mr. Sharpe in his synonymy, if the Ceylon bird merits a separate title.

IRENA.—The true systematic position of this genus has divided the opinions of ornithologists ever since Horsfield founded it. Temminck first classed it among the Dicruridæ; and so have other authors since, and Mr. Sharpe does the same. Jerdon placed it (following Blyth) among the Short-legged Thrushes, and made it constitute a separate subfamily, *Ireninæ*, the third among the Brachypodidæ, arranging it between the *Phyllornithinæ* and the *Oriolinæ*. In Jerdon's view I must undoubtedly concur. The affinity between *Irena* and *Dicrurus* is more apparent than real; it is an affinity of mimicry at best. The contour of the bill has a superficial resemblance; but the margins of the commissure are inflected in *Irena*; in *Dicrurus* they are spreading. In the last the rictal bristles are developed (a certain indication of insectivorous habits); in *Irena* they are short, weak, almost aborted. In the gradation of the quills there is some analogy; but in *Irena* the 3rd, 4th, and 5th are usually equal and longest, whereas in *Dicrurus* the 3rd is Ibis, 1878, p. 83.

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* *D. malabaroides* (Hodgs.) of Mr. Sharpe (p. 260), a title published one year later. Mr. Gould's Sumatran species, said to be exactly the same, has not since been recognized.

† In the series of Sumatran and Javan racket-tailed Drongos at Leyden I did not observe a crested Sumatran or a non-crested Javan example.

generally shorter than the 4th and 5th. Beyond these points all resemblance ceases. The tarsus and feet are short and weak in *Irena*; the toes and nails are singularly slender for the size of the body; and the outer toe is free, whereas in *Dicrurus* it is ankylosed up to the first joint. The tail consists of twelve rectrices, and not of ten; and this character of itself removes *Irena* from the Dicruridæ, according to Mr. Sharpe's own definition*. The plumage is of a totally different character. The skin in *Irena* is especially tender; in *Dicrurus* it is exceedingly tough. In *Dicrurus* the sexes wear the same plumage, even the ornate plumes; in *Irena* the male has a brilliant, and the female a sombre attire. Every species of *Irena* has a number of fine nuchal hairs, which are wanting in *Dicrurus*. This last character (unknown to Blyth and Jerdon), together with the short and weak feet, indicates a great affinity to *Criniger*. The *Dicruri* are insectivorous, some even killing small birds, whereas *Irena* is frugivorous. The structure of the sternum in *Dicrurus* is, I believe, different from that of *Irena*. The notes of *Irena* are those of *Oriolus*, and have no similarity to those of *Dicrurus*. If we turn to the characters whereby Mr. Sharpe differentiates *Irena* from the other genera of the Dicruridæ, the terms will be found to be not altogether exhaustive or satisfying:—"Tail square; plumage of upper surface enamelled."

Irena criniger.—Mr. Sharpe separates Bornean and Sumatran examples from the Malaccan *I. cyanea* under this new title, solely on the ground that in *I. criniger* "the under tail-coverts are produced to the very end of the tail," while in *I. cyanea* they "fall short of the tip of the tail by half an inch." In a Malaccan example (*mus. nostr.*) the under tail-coverts reach within one eighth of an inch of the tip of the rectrices. But even if the character holds good, how can *I. criniger*, according to Mr. Sharpe's own views, rank higher than a subspecies? The presence of nuchal hairs is not mentioned in the description; but the specific title implies their existence, and the head is figured showing them. This character, as already observed, is possessed in common by every species of the genus. Ibis, 1878, p. 84.

The following are some of the titles given to various species of *Dicrurus* which are not accounted for, and some not even mentioned by Mr. Sharpe:—*D. mystaceus*, Vieill., founded on Le Vaillant's 169th plate, =either to *D. assimilis*, or else taken from a manufactured specimen, as suggested by Verreaux (Hartlaub, Syst. Orn. W. Afr. p. 101); *D. leucophæus*, Vieill., *D. leucogaster*, Vieill., and *D. intermedius*, Lesson, already referred to; *D. ashantensis*, Temm., Hartl. (*t. c.*), =*D. modestus*; *Oriolus furcatus*, Gm. (*conf.* Walden, Tr. Z. S. ix. p. 181†); *D. marginatus*, Blyth, Ibis, 1865, p. 46, a species founded on a specimen in the Derby Museum, Liverpool, habitat unknown.

Since the publication of the Catalogue an additional species, *Dicrurus striatus*, Tweeddale (P. Z. S. 1877, p. 545‡), has been described.

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* See the characters of Dicruridæ (*t. c.* p. 4).

† [*Anteà*, p. 346.—Ed.]

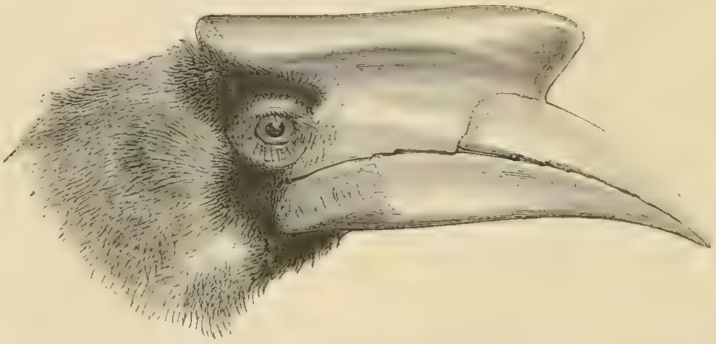
‡ [*Anteà*, p. 469.—Ed.]

P.Z.S. 1878, p. 277.

On a new Species of the Genus Buceros. By ARTHUR, Marquis of TWEEDDALE, F.R.S., President of the Society. ['From the Proceedings of the Zoological Society of London,' read February 19, 1878.]

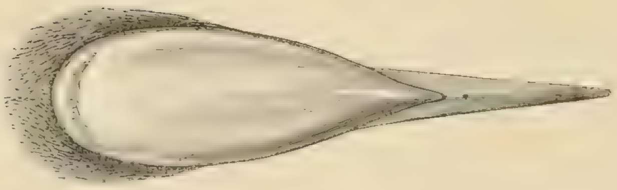
IN a collection of birds made at Amparo (in the extreme south of the Philippine island of Leyte), and sent to me by Mr. Everett, are some examples of a Hornbill of the genus *Buceros*, which differ from the two other known Philippine species * sufficiently to require description. The characters which differentiate the large *Buceros* of Mindanao, *B. mindanensis*, from the one which inhabits Luzon were stated some months ago before this Society (see P. Z. S. 1877, p. 543) †. But in those two species the form and general contour of the bill and casque are alike, whereas in this second representative form of *B. hydrocorax* the form of the casque is very different. P.Z.S. 1878, p. 278. The colouring of the bill represents that of *B. mindanensis*; and in the general colouring of the plumage there is little or no difference. It is the form of the casque that provides the differential specific character. Instead of being produced forward as in *B. hydrocorax* and *B. mindanensis*, with an abrupt, compressed, and elevated anterior margin, the superior plane of the casque loses itself and dies away on the culmen. The superior plane of the casque is not flat but arched along its length, the crown of the arch during the course of its anterior half forming an almost acute ridge. In the two known species the contour of the superior flat plane of the casque is that of an oval, the posterior end being rounded and the anterior pointed. In this Leyte species the posterior end is also rounded; but the sides, instead of gradually expanding to the greatest breadth of the superficial area and then gradually contracting to the apical point, continue in

Fig. 1.



Side view of head of *Buceros mindanensis*.

Fig. 2.



Head of *Buceros mindanensis*, from above.

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* *B. hydrocorax* and *B. mindanensis*.

† [*Anteà*, p. 467.—ED.]

almost parallel lines for about two thirds of the length of the major axis of the casque, and then terminate abruptly, forming corners from which the sides of the remainder of the casque recede until they reach the culmen.

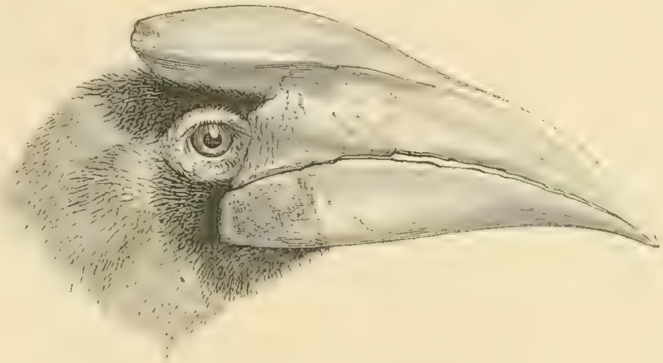
[S. Leyte, ♂ (adult), September. Iris light yellow; orbital skin darkest sepia, almost black; gular skin dark Indian-yellow; feet coral-red; nails dark brown-grey.—*Everett.*]

The iris of an adult male from the island of Panaon is recorded by Mr. Everett as being "pale blue." P.Z.S. 1878, p. 279.

Distinct slightly corrugated basal plates are present on the walls of the mandibles of the adult birds.

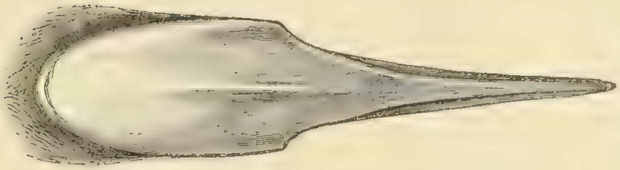
The first plumage has little resemblance to that of maturity. The space between the rami of the mandible and the patch at the base of the sides of the mandible is dirty brown. The head, neck, breast, and abdomen are dirty greyish fulvous-white, the feathers of the head, neck, and upper breast being ferruginous at their insertions and grey at their tips; and such is the character of the thigh-coverts and ventral plumage. The upper tail-coverts are also dirty greyish-fulvous white, with either brown or ferruginous bases. The dorsal plumage and the quills and other wing-feathers are brown, the quills dark brown, with broad terminal dirty greyish-fulvous white marks or edgings. The middle pair of rectrices are for two thirds of their length pale brown, the apical third being white or dirty creamy white. All the other rectrices have the basal part to a greater or less extent pale brown, or pale rusty-brown. In some, probably the new feathers, the whole rectrix is white. In the plumage described the bill is black with a yellow tip, and the casque is not formed. The colouring of the soft parts of the young bird is noted by Mr. Everett as follows:—" S. Leyte, ♀, September. Iris dark brown; bill black; P.Z.S. 1878, p. 280.

Fig. 3.



Side view of head of *Buceros semigaleatus.*

Fig. 4.



Head of *Buceros semigaleatus*, from above.

orbital skin greenish yellow; gular skin yellow; legs and feet dark orange. *b*, S. Leyte, ♀, October. Iris grey-brown; bill jet-black, tip orange; feet dull orange."

The bill remains black after the bird has assumed the completely mature plumage and after the casque is almost perfectly formed.

	Dimensions.				Casque.		
	Wing.	Tail.	Tarsus.	Bill from gape.	Length.	Breadth.	Sides.
	in.	in.	in.	in.	in.	in.	in.
♂	15·80	15·00	2·20	5·85	4·90	2·00	3·35
♀	14·30	14·50	2·20	5·30	4·75	1·65	3·30
♂ juv.	14·50	14·00	2·20	5·20	4·80	1·40	0·00

For this Hornbill I propose the title of *Buceros semigaleatus*.

P.Z.S.1878, p. 280. *Contributions to the Ornithology of the Philippines.*—No. V. *On the Collection made by Mr. A. H. Everett in the Island of Negros.* By Arthur, Marquis of Tweeddale, F.R.S., President of the Society. [From the 'Proceedings of the Zoological Society of London,' read February 19, 1878.]

Mr. Everett has been continuing his zoological researches in the Philippine Islands unremittingly, and, by the consignment of a collection of birds during the month of August last in the neighbourhood of Nueva Valencia and Dumaguete, situated at the extreme south of Negros, has enabled me to continue these contributions to the ornis of the archipelago.

"The southern extremity of Negros," Mr. Everett writes, "which is the most mountainous part of the island, and where I hoped to find accessible virgin forest, is simply one vast field of maize, sugar-cane, and hemp, perfectly cleared, even far up the steep sides of the mountains, and is a very poor district indeed for birds." Notwithstanding, Mr. Everett in the space of one month secured 56 distinct species, 24 of which are now recorded for the first time from Negros. Of these 24 there are 6 new to the Philippine area, 3 of which are new to science.

Species not hitherto known as being inhabitants of the Philippines:—

Collocalia francica.
Butalis latirostris.
Limosa ægocephala.
Dasycrotapha speciosa.
Zosterops nigrorum.
Macropygia eurycerca.

The last three are new species.

P.Z.S.1878, p. 281. The exact habitat of one previously recorded Philippine bird has been determined by Mr. Everett,

Eudromias geoffroyi;

and there now remain 38 Philippine birds of which the precise habitat still continues undecided.

The number of species known to inhabit the island of Negros previous to the date of Mr. Everett's visit was about 59*; and to this number he has added 24, and raised the total of known Negros species of birds to 83.

The remarkable species of *Dasycrotapha speciosa*, a new type of Timeliine genus, and the discovery of a second Philippine species of *Collocalia* are the most interesting results of Mr. Everett's ornithological researches in Negros.

1. Cacatua hæmaturopygia (1).

[Valencia, ♂, August.]

2. Tanygnathus luzonensis (3).

[Valencia, ♂ ♀, August.]

Of two examples (♂) shot in August, one has the crown and occiput blue, the other green; in both the uropygium is green.

3. Loriculus regulus (6).

Loriculus regulus, Souancé; Rowley's Ornith. Misc. pt. vii. p. 238, pl.

[Dumaguete, ♂ ♀, August: bill orange-red; cere orange; feet lighter orange; claws black. ♀ (juv.), August: feet dirty ochre-yellow.]

The series consists of eight examples, four marked as belonging to males and four to females.

The males are in the adult typical plumage of the species. Two of the females have the occiput faintly golden, and traces of the orange nuchal band. The two other females have the whole head green, and the crimson upper tail-coverts covering only half the length of the rectrices. No blue about the chin, cheeks, and throat.

The male, as figured by Keulemans (*l. c.*), only exhibits a red band across the throat, whereas the lower throat and breast possess a large orange-red plastron.

4. Limnaëtus philippensis (14).

[Valencia, ♀, August: iris pale brownish grey; bill black; lores and cere dull greenish; feet light dirty yellow; claws black.]

P.Z.S.1878, p. 232.

Pure white underneath, the thigh-coverts being very faintly barred with irregular lines of pale fulvous. Head and neck pure white, a few feathers with brown terminal drops. Back brown, each feather narrowly margined with pale tawny rufous. Uropygium and upper tail-coverts pale earthy brown, some of the coverts tipped with pure white. Minor wing-coverts brown, edged with dirty white. Major coverts pale earthy brown, with paler margins and white terminal edges. Quills dark brown, more or less blotched with paler brown and white.

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* Dr. Steere added 21 species to the 38 recorded by me (Tr. Z. S. ix. p. 252)[*antea*, p. 413] as known from Negros. Dr. Steere collected partly in North Negros, and partly at Dumaguete in the South; but, from the general term "Negros" being frequently all that is given as the locality by Mr. Sharpe (Tr. L. S. 2nd series, Zool. vol. i.), it is impossible in many cases to determine the exact part of the island in which Dr. Steere's specimens were obtained.

Rectrices above rich brown, with five or six very narrow cross dark brown irregular bands, a broader dark brown subterminal band. Shafts pure white for three fourths of their length. Rectrices underneath albescent, the brown bands being more conspicuous than above.

Wing 15·20 inches, tail 12·00, tarsus 3·50, culmen 1·50. Nuchal crest-plumes dark brown, tipped with white; length 3·30.

5. HALIASTUR INTERMEDIUS (17).

[Valencia, ♀, August.]

In full plumage.

6. MEROPS PHILIPPINUS (35).

[Valencia, ♂ ♀, August. Dumaguete, ♀, August.]

The series (7) consists of examples ranging from first plumage to that of the almost adult. None are in full plumage.

7. MEROPS BICOLOR (36).

[Valencia, ♂ ♀, August.]

In a series of five examples, one is in perfect plumage, the remaining four represent different stages of immaturity.

8. EURYSTOMUS ORIENTALIS (37).

[Dumaguete, ♀, August.]

9. ENTOMOBIA GULARIS (44).

[Valencia, ♂, August. Dumaguete, ♀, August.]

10. SAUROPATIS CHLORIS (47).

[Valencia, ♀, August. Dumaguete, ♀, August.]

11. XANTHOLÆMA ROSEA (51).

[Valencia, ♂, August.]

12. COLLOCALIA FRANCICA.

Hirundo francica, Gm. S. N. i. p. 1017; Walden, Ibis, 1874, p. 132. no. 70. [*Anteà*, p. 258.]

[Valencia, ♂ ♀, August.]

Mr. Everett's researches enable me to make known the existence in the Philippines of a second species of *Collocalia*. He has sent five examples. Underneath they are mouse-grey; above fuliginous brown, faintly tinged with bottle-green. The wings and tail darker brown than the back, showing a greenish gloss on the new feathers. I can find no character whereby to separate these Negros individuals from those inhabiting Malacca, the Andamans, Sikim, Ceylon, the Neilgherries, the Mauritius, and the Fiji Islands. Wing 4·50. Formerly (*l. c.*) I

P.Z.S.1878, p. 283.

referred by implication *C. troglodytes* to the *C. francica* section of the genus; but a reexamination of a considerable series of *C. troglodytes* shows that it more properly belongs to the section of which true *C. esculenta* may be taken as being the type.

13. Centrococcyx viridis (64).

[Valencia, ♂, August. Dumaguete, ♂, August.]

14. Penelopides panini (68)?

[Valencia, ♀, August: iris dull chestnut-brown; orbital and other bare skin white faintly tinged bluish; bill brown with olive-green tinge; feet dark lead-grey with a faintish greenish cast; nails black.]

The single example sent wears the dress of the mature female of *P. panini*; but the bill is smooth, without lateral plates, grooves, or casque. The upper tail-coverts are ferruginous and not black. It may belong to a distinct representative form.

15. Artamus leucorynus (73).

[Dumaguete, ♂ ♀, August).

16. Graucalus striatus (74).

[Dumaguete, ♂, August. Iris crimson. Valencia, ♀, August. Iris crimson; bill black; legs grey-black.]

Of four examples three (♂) have the throat and upper breast uniform slate-colour, the remainder of the lower plumage, the uropygium and upper tail-coverts being broadly banded with black and white. One example (marked ♀) differs by having the entire lower plumage banded with black and white.

17. Volvocivora? cærulescens (75)?

[Valencia, ♂, August: iris dark chocolate; bill black; legs blackish grey.]

A single example of a bird (marked ♂) which I provisionally refer to the above species is sent from Negros by Mr. Everett. It differs from every example in my series from Luzon and Zebu in having a longer and larger bill, in being dark ashy grey above, without any dark brown almost black margins to the feathers, the uropygium and upper tail-coverts being of still paler grey, in being below pale grey and not dark iron-grey, in having the major wing-coverts pure white and the tertiary quills broadly margined with pure white, and in having the two outer pairs of rectrices broadly tipped with white and some of the other rectrices slightly white-tipped. The under tail-coverts are also almost pure white. The general dimensions are about equal in all. The adult males of *V. cærulescens* are jet-black; the adult females are dark plumbeous grey (conf. P. Z. S. 1877, p. 759. no. 23*), while this bird is pale-coloured. *V. cærulescens* is as yet only known to inhabit Luzon and Zebu; and this may possibly belong to a representative form. P.Z.S.1878,
But as it may also be *V. cærulescens* in first plumage, I refrain from bestowing on it a distinct p. 281.
title.

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* [*Anteà*, p. 533.—Ed.]

18. LALAGE DOMINICA (76).

[Valencia and Dumaguete, ♂ ♀, August.]

19. DICRURUS MIRABILIS (81).

[Valencia, ♂ ♀, August.]

20. PHILENTOMA ALBIVENTRIS.

Philentoma albiventris, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 325. no. 49, "Guimaras" (Nov. 16, 1876).

[Valencia, ♂, August.]

A single example is sent by Mr. Everett; and it seems to belong to a species distinct from *P. cyaniceps*, and Mr. Sharpe appears to have been justified in separating it, notwithstanding the doubt he expresses (*l. c.*). Besides the lower breast and abdomen being pure white, the dimensions of the rectrices and wings, when compared with those of an adult Luzon male, are longer; tail 4·12 as against 3·50; wing 3·25 as against 2·87. These, however, are larger dimensions than those given by Mr. Sharpe of his type.

21. LEUCOCERCA NIGRITORQUIS (83).

[Valencia, ♂, August. Dumaguete, ♀, August.]

22. CYORNIS PHILIPPINENSIS.

Cyornis philippinensis, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 325.

[Valencia, ♂ (juv.), August: iris dark brown; bill black; legs bluish grey. Dumaguete, August.]

The young birds (of which a series of five are sent) have their plumage, with the exception of the remiges and rectrices, which are brown, washed with blue or greenish blue, marked with large pale rufous spots. In one the whole of the body-plumage is so marked; in another the abdomen and throat are white; in another several of the uniform blue dorsal feathers have come in, and the breast is turning to pure rufous. The throat-plumes are the last to change to the adult colouring, while full maturity is indicated by the intensity of the rufous on the throat and breast.

23. HYPOTHYMIS AZUREA (85).

[Valencia, ♂ (not adult), August: iris dark brown; bill black; legs dark grey. Dumaguete, ♂, August.]

24. BUTALIS LATIROSTRIS.

Muscicapa latirostris, Raffles, Tr. L. S. xiii. p. 312; Walden, Ibis, 1873, p. 308*.

[Valencia, ♀, August.]

P.Z.S.1878, p. 285. A single example in first plumage, with pale rufous spots on the sides of the neck and margins to the secondary and tertiary quills and major coverts; wing 2·56.

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* [*Anteà*, p. 242.—ED.]

25. Broderipus acrorhynchus (90).

[Valencia, ♀ (juv.), August: bill dark sepia-brown. Dumaguete, ♂ (juv.), August: bill dark vandyke-brown.]

Judging by the series Mr. Everett sends (seven) and other examples of the Negros Oriole I have examined, it would appear that the extent of the yellow on the forehead is more restricted in the Negros and Guimaras forms than in examples from any of the other Philippine islands.

26. Megalurus ruficeps.

Megalurus ruficeps, Tweeddale, Ann. & Mag. Nat. Hist. ser. 4, vol. xx. p. 94; P. Z. S. 1877, p. 695.

[Valencia, ♀, August: iris light clay-brown.]

Males from the same locality are of equal dimensions. New to Negros.

27. Dasycrotapha speciosa.

Dasycrotapha speciosa, Tweeddale, P. Z. S. 1878, pl. ix. p. 114. [*Anteà*, p. 574.]

[Valencia, ♂, August: iris crimson; bill orange-yellow.]

28. Ixus goiavier (99).

[Valencia and Dumaguete, ♂ and ♀, August.]

A series of five, with ear-coverts and sides of head brown.

29. Hypsipetes philippinensis (102).

[Valencia and Dumaguete, ♀, August.]

30. Copsychus mindanensis (105).

[Valencia, ♂ and ♀, August. Dumaguete, ♀, August.]

31. Cisticola, sp.?

[Valencia, ♂, August: iris light grey-brown; bill brown; legs pale tinged with brown.]

Mr. Everett's note, above quoted, refers to a single example of the genus *Cisticola* which I am unable to determine. The example is in perfect plumage and belongs evidently to an adult; but the great variations in plumage the members of the genus exhibit make it possible that it belongs to some described species; and I refrain from bestowing what may be a useless title. Its dimensions are smaller than those of any species known to me. Wing 1·62, culmen 0·31, tarsus 0·62. The first primary is relatively long and broad, 0·53. Underneath the general colouring yellow-white, with a rufous tinge on the breast; flanks, under tail-coverts, wing-lining, and thigh-coverts pale ferruginous. Above the colouring is pale ferruginous-brown, each feather dark centred with brown; the nape is uniform pale ferruginous-brown, the upper tail-coverts being brighter ferruginous; the quills are brown margined with the same pale ferruginous as the upper plumage. Rectrices above pale brown, underneath much paler, with bold subterminal dark brown almost black spots, which show through on the upper surface as brown marks; the inner margins of the quills are pale ferruginous.

P.Z.S. 1878, p. 286.

This Negros bird differs from N.-Mindanao, Celebes, and Bangkok (Siam) examples of *C. grayi* in its smaller dimensions and longer and broader first primary, and in the absence of the pure uniform rufo-fulvous cap.

The description of *C. semirufa*, Cab., is too meagre for identification, and no dimensions are stated; but it is probably the same bird as *C. grayi*. *C. ruficeps*, Gould (Sclater, P. Z. S. 1877, p. 98), belongs to *C. grayi*, the only difference Dr. Brown's example exhibits being the absence of the rufous tinting of the breast and under surface generally.

32. ORTHOTOMUS CASTANEICEPS (113).

[Valencia, ♂ and ♀, August.]

New to Negros and not separable from the type, which inhabits the island of Guimaras.

33. CORYDALLA LUGUBRIS (117).

[Dumaguete, ♂ and ♀, August.]

34. PARUS ELEGANS (118).

[Valencia, ♂ and ♀, August.]

New to Negros.

35. ZOSTEROPS NIGRORUM, n. sp.

[Valencia, ♂ and ♀, August.]

Male and female. Above light olive-green; whole under plumage light greenish-yellow, almost pure yellow; closed wing like the back, outer quill-margins paler; space before the eye almost pure yellow; axillaries and under wing-coverts very pale yellow; a narrow black mark margins the white feathers of the underside of the orbit; rectrices pale brown edged with olive-green. Wing 2·18, tail 1·87, tarsus 0·62, culmen 0·44.

Closely allied to *Z. austeni*, Walden, ex Karennee, this Negros species differs in being of a darker shade of green above and a lighter yellow underneath.

36. DICÆUM HÆMATOSTICTUM.

Dicæum hæmatostictum, Sharpe, 'Nature,' August 1876, p. 297; Tr. L. S. ser. 2, Zool. i. p. 339.

[Valencia, ♂, August.]

37. NECTAROPHILA SPERATA (122).

[Valencia, ♂ and ♀, August.]

38. ARACHNECTHRA JUGULARIS (123).

[Valencia, ♂ and ♀, August.]

39. ÆTHOPYGA MAGNIFCA. P.Z.S.1878, p. 287.

Æthopyga magnifica, Sharpe, 'Nature,' August 1876, p. 297; Tr. L. S. ser. 2, Zool. i. p. 342; Shelley, Monogr. *Cinnyridæ*, pt. 3, pl.

[Valencia, ♂ and ♀, August.]

In one example (♂) the uropygium is deep orange and not yellow.

40. ANTHOTHREPTUS CHLOROGASTER.

Anthreptes chlorigaster, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 342. no. 107, "Negros" (1876).

[Valencia, ♀, August: iris indian-red.]

41. CORVUS PHILIPPINUS (125).

[Dumaguete, ♂ ♀, August.]

The disproportion between the dimensions of sexes in the Philippine Crow exhibits itself in the Negros examples sent by Mr. Everett, the wing of the male measuring 12 inches, as against 11 in the female; culmen of male 2·37, of female 2·12.

42. CALORNIS PANAYENSIS (128).

[Dumaguete, ♂ ♀, August.]

43. SARCOPS CALVUS (129).

[Dumaguete, ♂ ♀, August.]

44. MUNIA JAGORI (132).

[Valencia, ♂ ♀, August. Dumaguete, ♂ ♀, "breeding," August.]

May not Meyen's *Fringilla minuta* (Walden 133) be *M. jagori* in first plumage, before the black feathers come in? Otherwise it is remarkable that a species stated by Meyen to occur in numberless troops in the Luzon sugar-plantations has not, since he wrote (1834), been recognized.

45. OSMOTRERON AXILLARIS (136).

[Valencia, ♂, August. Dumaguete, ♀, August.]

46. LEUCOTRERON GIRONIERI (137)?

[Valencia, ♂, August.]

A single example of a Pigeon much resembling *L. gironieri*, of Luzon and Guimaras, and probably representing an immature stage of its dress, is sent by Mr. Everett. It differs from all the phases of plumage described by me (*l. c.*) in having the throat, breast, and abdomen pale ashy white, much stained pale verdigris-green. The crown and nape rich green like the back. A purple pectoral band is indicated by a few isolated plumes. The first primary is not abruptly attenuated; but perhaps the attenuated first quill is only produced later. The species has not heretofore been recorded from Negros.

P.Z.S.1878, p. 288.

47. Carpophaga ænea (141).

[Dumaguete, ♂ ♀, August.]

48. Ianthœnas griseigularis (145).

[Valencia, ♂, August: iris orange; orbital region and basal half of bill dark crimson; apical half of bill pale yellow; feet dull carmine; nails yellowish grey.]

49. Macropygia eurycerca, sp. n. (146, *partim*).

[Valencia, ♂, August: iris yellow, with outer ring crimson; orbital region and base of bill crimson; bill light brown; feet carmine.]

Mr. Everett sends a single example, which agrees in every respect with the example obtained in Negros by Dr. B. Meyer, and described by me (Tr. Z. S. ix. p. 218. no. 146[*]) when writing on *M. tenuirostris.* A recomparison made with Luzon examples leaves no doubt that the Negros bird is specifically distinct.

50. Turtur dussumieri (147).

[Valencia, ♂, August. Dumaguete, ♂, August.]

51. Chalcophaps indica (150).

[Valencia, ♂, August.]

52. Eudromias geoffroyi (161).

[Dumaguete, ♀, August: bill black; legs very pale greenish grey; feet darker grey.]

53. Rallina euryzonoides.

Gallinula euryzonoides, Lafresn. Rev. Zool. 1845, p. 368; Tweeddale, P. Z. S. 1877, p. 767[†].

[Valencia, ♂, August.]

New to Negros. The Luzon (Manilla) bird (Tr. Z. S. ix. p. 231. no. 175[‡]) has to be compared; for it is doubtful whether it does not rather belong to this species than to *R. fasciata.*

54. Hypotænidia torquata (177).

[Valencia, ♀, August.]

New to Negros.

55. Limosa ægocephala.

Scolopax ægocephala, Linn. S. N. i. p. 246. no. 16.

[Valencia, August.]

56. Nycticorax manillensis (198).

[Dumaguete, ♂, August: iris golden yellow; bill black, the base, greater part of lower half, and bare orbital skin bright yellow-green; legs and feet light yellow-green, clouded with olive-green in front and on the upper surface of toes.]

In first plumage.

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[*] [*Anteà*, p. 382.—Ed.]

[†] [*Anteà*, p. 540.—Ed.]

[‡] [*Anteà*, p. 393.—Ed.]

Contributions to the Ornithology of the Philippines.—No. VI. *On the Collection made by Mr. A. H. Everett in the Island of Leyte.* By ARTHUR, Marquis of TWEEDDALE, F.R.S., President of the Society. ['From the Proceedings of the Zoological Society of London,' read March 19, 1878*.] P.Z.S. 1878, p. 339.

THE island of Leyte is about 130 miles long, and has an average breadth of 35 miles. It lies S.S.W. of Samar, its northern part lying in close contiguity to Samar. Zebu is situated to the west, and Dinagat to the south-east, while Mindanao is due south. Water-channels of unimportant breadth separate Leyte from these other islands. A peculiar ornis is therefore not to be expected, and Mr. Everett's researches have not made known any special feature. That gentleman, however, procured all the birds of which I propose to give a list at Amparo (on the south-west coast of Leyte) and in its vicinity. But Mr. Everett writes that he does not believe the collection he sends at all adequately represents the avifauna of Leyte, and he hopes to revisit it and explore the mountains in the centre and south of the island.

The most interesting species is *Buceros semigaleatus*, a purely local form, distinguishable from the two previously known Philippine species by the contour of the casque. *Thriponax pectoralis* is another species, the deviation of which from *T. javensis* of Luzon is probably owing to isolation. In *Arachnothera flammifera* Mr. Everett has added another Malayan genus to the Philippine area. P.Z.S. 1878, p. 340.

1. CACATUA HÆMATUROPYGIA (1).

[Amparo, ♂ ♀, July.]

2. TANYGNATHUS LUZONENSIS (3).

[S. Leyte, ♂, September.]

3. LORICULUS HARTLAUBI (7)?

[Amparo, ♂ ♀, July.]

I provisionally identify a series of nine examples of the South-Leyte *Loriculus* with *L. hartlaubi* until further research establishes the permanency of the characters whereby these Leyte birds differ from those of North Mindanao and Dinagat. Five individuals are examples of the male bird in apparently adult plumage. They differ from true *L. hartlaubi* in having a much smaller orange-red pectoral plastron, and in its not running up to the naked chin, but stopping short some way below, so that the upper throat is uniform green. Above, the back is green, and not golden, nor is that of the female. The dimensions are equal.

4. ASTUR TRIVIRGATUS (11).

[Amparo, ♀, July.]

In Mr. J. H. Gurney's opinion this Leyte example is in immature plumage, and probably belongs to a male.

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* [Published August 1, 1878.—ED.]

5. Spilornis holospilus (16).

[S. Leyte, ♂ ♀, September.]

6. Haliastur intermedius (17).

[S. Leyte, ♂ ♀, September.]

7. Thriponax pectoralis, n. sp.

[S. Leyte, ♂ ♀, September.]

Like *T. javensis*, but differs in having the feathers of the chin, throat, sides of head and neck white, broadly centred with a median black stripe, and in the fulvous-white colouring of the abdomen covering the breast, each pectoral plume being centred with black.

8. Merops philippinus (35).

[S. Leyte, ♂ ♀, September.]

9. Merops bicolor (36).

[S. Leyte, ♂ ♀, September.]

Two examples in mature plumage, two immature; the chestnut head and back in the latter mixed with green, and the middle pair of rectrices not fully developed.

P.Z.S. 1878, p. 341.

10. Eurystomus orientalis (37).

[Amparo, ♂ ♀, August.]

11. Alcedo bengalensis (38).

[S. Leyte, ♂ ♀, October.]

12. Ceyx argentata.

Ceyx argentata, Tweeddale, Ann. & Mag. N. H. ser. 4, vol. xx. p. 533. [*Anteà*, p. 561.]

[S. Leyte, ♂, October.]

13. Entomobia gularis (44).

[Amparo, ♂, August; S. Leyte, September.]

14. Sauropatis chloris (47).

[Amparo, ♂ ♀, August.]

15. Pelargopsis gigantea.

Pelargopsis gigantea, Walden [Ann. & Mag. N. H. ser. 4, vol. xiii. p. 123, *anteà*, p. 253], P. Z. S. 1877, p. 541. [*Anteà*, p. 465.]

[Amparo, ♂ ♀, July; S. Leyte, ♂ ♀, September and October.]

Ten examples, all of which belong to the smaller North-Mindanao and Dinagat race, which I have hitherto provisionally referred to *P. gigantea*.

16. Centrococcyx viridis (64).

[S. Leyte, ♂ ♀, October: iris brown. *b*, ♂, September: iris yellowish brown; bill black; legs steel-grey.]

17. Buceros semigaleatus.

Buceros semigaleatus, Tweeddale, P. Z. S. 1878, p. 277.

18. Penelopides affinis.

Penelopides affinis, Tweeddale, Ann. & Mag. N. H. ser. 4, vol. xx. p. 534 [*anteà*, p. 562]; P. Z. S. 1877, pp. 824, 825 (fig. 1)*. [*Anteà*, p. 550.]

[Amparo, ♂ ♀, July; S. Leyte, ♂ ♀, September and October, ♀ juv.†: iris raw sienna-brown; bill greenish brown; mandible greenish; legs dark greenish grey. ♀. Iris in living bird rich dark burnt-sienna-orange.]

The new rectrices in both sexes of this species are pure white, and not pale rufous, the apices always remaining black. In one example (♀) the two middle rectrices have a dark rufous terminal band, black being indicated where this band meets the paler rufous of the basal portion. In a young male this also occurs.

19. Lanius nasutus (70).

[S. Leyte, ♂ ♀, September and October.]

20. Lanius lucionensis (72). P.Z.S. 1878, p. 342.

[S. Leyte, ♂ ♀, September.]

The males are in adult dress, with pearl-grey foreheads. The female has all the gular and pectoral plumage narrowly edged with brown, as well as the feathers of the flanks and thighs. The entire upper plumage is uniform liver-brown, without a trace of grey on the forehead.

21. Artamus leucorynus (73).

[Amparo, ♂, August; S. Leyte, ♀, October.

22. Lalage dominica (76).

[Amparo, ♂, July.]

23. Cyornis philippinensis.

Cyornis philippinensis, Sharpe, Tr. L. S. 2nd series, Zool. i. p. 325.

[Amparo, ♂, July.]

24. Hirundo javanica.

Hirundo javanica, Sparrman, Mus. Carls.

[S. Leyte, ♂, September, ♂ juv., October.]

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* The passage in which I differentiate *P. affinis* from *P. panini* and *P. manillæ* (*l. c.*) should read "by the absence of the channelling on the lateral plates of the maxilla."

† Marked ♂ by collector, but in complete black plumage.

25. Broderipus acrorhynchus (90).

[Amparo, ♀, July; S. Leyte, ♂ ♀, September.]

26. Mixornis capitalis.

Mixornis capitalis, Tweeddale, P. Z. S. 1878, p. 110, pl. vii. fig. 2. [*Anteà*, p 569.]

[S. Leyte, ♀, October: iris white.]

27. Ixus goiavier (99).

[Amparo, ♀, July; S. Leyte, ♂ ♀, September.]

28. Hypsipetes philippinensis (102).

[S. Leyte, ♂, September.]

29. Monticola solitarius (103).

[S. Leyte, ♂ ♀, October.]

Three examples are in dull plumage, the feathers, especially on lower surface, broadly margined with brown; above, a bluish tinge. These are marked female by the collector. A fourth example (marked ♀) is passing over from this stage, the blue tinge above being much more marked, while most of the abdominal plumage and the under tail-coverts are rich chestnut. A fifth example (marked ♂) is in nearly full blue and dark rich chestnut plumage.

30. Copsychus mindanensis (106).

[S. Leyte, ♂ ♀, September.]

31. Phylloscopus borealis.

Phyllopneuste borealis, Blasius, Naumannia, 1858, p. 313.

[S. Leyte, ♂, October.]

P.Z.S.1878, p. 343. 32. Calobates melanope (115).

[S. Leyte, ♀, September.]

33. Myzanthe pygmæa (121).

[S. Leyte, ♂, October: iris chocolate.]

34. Arachnothera flammifera, n. sp.

[S. Leyte, ♂, September: iris salmon-red; bill black; legs dark lead-grey.]

Above uniform rich olive-green; chin, throat, sides of head, and neck pale grey; upper breast pale grey, tinged with yellow; lower breast a purer pale yellow; abdomen, flanks, ventral region, and under tail-coverts deep yellow; wing-lining silky pale grey, almost white; pectoral tufts (which measure some three quarters of an inch long) bright vermilion-red; quills brown, margined with olive; rectrices brown, all but the middle pair boldly tipped on the inner webs with white.

Wing 2·45, tail 1·75, culmen 1·25, tarsus 0·62.

The discovery of this species by Mr. Everett adds another characteristic Malayan genus to the Philippine avifauna.

35. Nectarophila sperata (122).

[S. Leyte, ♂, September.]

36. Arachnechthra jugularis (123).

[Amparo, ♂ ♀, July, August.]

37. Corvus philippinus (125).

[S. Leyte, ♂ ♀, July.]

38. Calornis panayensis (128).

[Amparo, ♂, August; S. Leyte, ♂ ♀, September and October, ♂ juv., September: iris brownish ochre-yellow.]

The young bird is in brown and striated plumage.

39. Sarcops calvus (129).

[Amparo, ♂ ♀, July.]

These two examples have the whole back, from the nape to the uropygium, and also the scapulars dark brown. This is also the case in my Zebu series, and in some individuals from South Negros. In one Negros example the back is dark brown, many of the feathers being fringed with various shades of grey. In another the amount of grey and brown on the back is about equal; and it would seem that the grey colouring on the back belongs to the fully adult bird, and that the nape, uropygium, and upper tail-coverts assume the full grey colouring of the adult before the dorsal plumage commences to turn grey; the whole of the upper plumage is brown at the base, the tips alone changing to grey.

40. Munia jagori (132).

[Amparo, ♀, July; S. Leyte, ♂, September.]

41. Phabotreron brevirostris.

P.Z.S. 1878, p. 344.

Phabotreron brevirostris, Tweeddale, P. Z. S. 1877, p. 549. [*Anteà*, p. 473.]

[Amparo, ♀, July.]

42. Carpophaga ænea (141).

[Amparo, ♂ ♀, July.]

43. Turtur dussumieri (147).

[Amparo, ♂ ♀.]

44. Charadrius fulvus (159).

[S. Leyte, ♂ ♀, September and October.]
In non-breeding plumage.

45. Eudromias geoffroyi (161).

[S. Leyte, ♂ ♀, September and October.]

46. Eudromias mongolicus (163).

[S. Leyte, ♀, September.]

47. Ægialites dubius (162).

[S. Leyte, ♂ ♀, September and October.]
All the examples, nine in number, are of birds in full breeding-plumage.

48. Ægialites peronii.

Charadrius peronii (Temm.); Schlegel, Mus. Pays-Bas, *Coraces*, p. 33; Walden, Tr. Z. S. viii. p. 90. no. 142, pl. x. f. 2.

[S. Leyte, ♀, October.]

In immature plumage; first primary only two thirds grown; sides of breast and narrow connecting band brown, mixed with rufous; broad frontal patch pure white, bounded posteriorly by a narrow brown band; crown and occiput rufous brown; tarsus one inch.

49. Melanopelargus episcopus.

[Amparo, ♂, July.]
In full plumage.

50. Gallinula chloropus (169).

[Amparo, ♂ ♀, July.]

51. Ortygometra cinerea (172).

[Amparo, ♂ ♀, July; S. Leyte, ♂, September.]

52. Porzana fusca (174).

[S. Leyte, ♂, September: iris brilliant red; orbital ring crimson; bill olive-green, culmen black; legs light dull carmine.]

A single example, which belongs to the small race, *i. e.* true *P. fusca*, and not to *P. erythrothorax*.

53. Rallina euryzonoides.

P.Z.S. 1878, p. 345.

Gallinula euryzonoides, Lafr. Rev. Zool. 1845, p. 368.

[Amparo, ♂ ♀, July and August; S. Leyte, ♂ ♀, September.]

54. Amaurornis olivacea (176).

[S. Leyte, ♂ ♀, July.]

55. Hypotænidia torquata (177).

[Amparo, ♂, July; S. Leyte, ♀, July.]

The female example differs from every other individual of this Philippine Rail I have examined in having the broad pectoral band coloured like the back.

56. Hypotænidia striata (179).

[Amparo, ♂ ♀, July; S. Leyte, ♂ ♀, September. ♂ juv., September: bill purple-brown, the culmen dark brown.]

57. Totanus incanus.

Scolopax incana, Gm. S. N. i. p. 658.

[S. Leyte, ♀, October: iris dark brown; bill dark brown, nearly black; legs light greenish ochre.]

58. Tringoides hypoleucus (183).

[S. Leyte, ♀, September.]

59. Gallinago scolopacina (187).

[S. Leyte, ♂ ♀, September.]

60. Gallinago megala (188).

[S. Leyte, ♀, September.]

61. Rhynchæa capensis (189).

[S. Leyte, ♂, September.]

62. Ardetta cinnamomea (192).

[Amparo, ♂, July; S. Leyte, ♂ ♀, September.]

63. Herodias garzetta (195).

[S. Leyte, ♀, September: iris light yellow; orbital skin yellowish, clouded with dark grey; bill black, base of mandible whitish; legs black; feet greyish green; upper surface of toes tinged with purplish.]

64. Butorides javanica (197).

[Amparo, ♂, July; S. Leyte, September.]

One example in full, another in immature plumage.

65. Nycticorax manillensis (198).

[Amparo, ♀, July; S. Leyte, ♂, September: iris golden yellow; orbital skin yellow-green; bill black; legs pale ochreous white, but brown in front and on upper surface of toes.]

P.Z.S. 1878, p. 346. The male is in full breeding-plumage. The lengthened occipital plumes are black throughout their length, and not only at their tips, as described by Vigors and figured by Fraser.

66. Sterna bergii.

Sterna bergii, Licht. Verz. d. Doubl. Mus. Berl. p. 80.

[S. Leyte, ♂, October.]

67. Dendrocygna vagans (203).

[Amparo, ♂ ♀, July; S. Leyte, ♂, September.]

P.Z.S. 1878, p. 379. *Contributions to the Ornithology of the Philippines.*—No. VII. *On the Collection made by Mr. A. H. Everett in the Island of Panaon.* By Arthur, Marquis of Tweeddale, F.R.S., President of the Society. [From the 'Proceedings of the Zoological Society of London,' read April 2, 1878*.]

The small collection, of which it is proposed to give an account, was made by Mr. Everett at San Francisco, on the west coast of the small island of Panaon. This island is situated to the south-east of Leyte, from which it is separated by a narrow channel. Nor is its southern extremity distant from the most northerly part of Mindanao.

The number of species obtained is too small to permit me to draw any general conclusions as to the affinities of its ornis. But the occurrence of the Leyte species of *Buceros* and *Thriponax*, *B. semigaleatus* and *T. pectoralis*, rather than those of Mindanao, indicates a closer affinity to the northern than to the southern island.

Panaon has never hitherto been visited by an ornithological collector.

1. Cacatua hæmaturopygia (1).

[Panaon, ♀, October.]

2. Prioniturus discurus (2).

[Panaon, ♂, October.]

* [Published August 1, 1878.—Ed.]

3. Thriponax pectoralis.

Thriponax pectoralis, Tweeddale, P. Z. S. 1878, p. 340. [*Anteà*, p. 596.]

[Panaon, ♂ ♀, October.]

4. Chrysocolaptes lucidus (32).

[Panaon, ♀, October.]

Crest and crown dark brown, with ruddy fulvous spots.

5. Eurystomus orientalis (37).

[Panaon, ♂ ♀, September.]

6. Entomobia gularis (44).

[Panaon, ♂ ♀, October.]

7. Buceros semigaleatus.

Buceros semigaleatus, Tweeddale, P. Z. S. 1878, p. 277. [*Anteà*, p. 584.]

[Panaon, ♂ ♀, October.]

8. Lanius lucionensis (72).

[Panaon, ♂ ♀, October.]

Several of the examples from Panaon have the whole head above coloured like the back, uniform liver-brown. There are females with brown-freckled breasts and flanks.

9. Graucalus striatus (74).

[Panaon, ♂ ♀, October.]

10. Dicrurus striatus.

Dicrurus striatus, Tweeddale, P. Z. S. 1877, p. 545. [*Anteà*, p. 469.]

[Panaon, ♂ ♀, October.]

11. Broderipus acrorhynchus (90).

[Panaon, ♂, October.]

12. Mixornis capitalis.

Mixornis capitalis, Tweeddale, P. Z. S. 1878, p. 110, pl. vii. f. 2. [*Anteà*, p. 569.]

[Panaon, ♂, September.]

13. Poliolophus urostictus (101).

[Panaon, ♀, October.]

14. Hypsipetes philippinensis (102).

[Panaon, ♀, October,]

15. Criniger everetti.

Criniger everetti, Tweeddale, Ann. & Mag. Nat. Hist. ser. 4, vol. xx. p. 535. [*Anteà*, p. 563.]

[Panaon, ♂, September and October.]

16. Monticola solitarius (103).

[Panaon, ♂ ♀, October.]

17. Corydalla lugubris (117).

[Panaon, ♂, October.]

18. Dicæum modestum, n. sp.

[Panaon, ♂, October.]

P.Z.S.1878, p. 381.

Above dull olive-brown. Upper tail-coverts and outer margins of the wing-feathers a brighter olive-green. Rectrices above dark brown, some narrowly edged with olive-green. Cheeks greyish brown. Chin and throat greyish white. Breast pale grey. Abdomen, ventral region, and under tail-coverts faint yellowish white. Axillaries, wing-lining, and shoulder-edge pure white. Bill, in dried skins, black.

Wing 1·95, tail 1·00, tarsus 0·37, culmen 0·37.

This Flower-pecker closely resembles *Myzanthe pygmæa* ♀. It differs in wanting the lively olive-green colouring of the upper plumage of *M. pygmæa* ♀, more especially on the uropygium, and the pale yellowish-green lores. The wing too is longer, that of *M. pygmæa* measuring 1·70. If the sex noted on the label is correct, this Panaon *Dicæum* is very distinct from *M. pygmæa* ♂. If the genus *Myzanthe*, as distinct from *Dicæum*, is to be retained, *D. modestum* should belong to it.

19. Corvus philippinus (125).

[Panaon, ♂, October.]

20. Phabotreron amethystina (139).

[Panaon, ♀, September.]

P.Z.S.1878, p. 429. *Contributions to the Ornithology of the Philippines.*—No. VIII. *On some Luzon Birds in the Museum at Darmstadt.* By Arthur, Marquis of Tweeddale, F.R.S., President of the Society. [From the 'Proceedings of the Zoological Society of London,' read April 16, 1878*, Plate XXVI. *in orig.*]

Professor Koch, of Darmstadt, through the obliging intervention of Dr. Brüggemann, has kindly sent to me for examination a small number of birds collected in the vicinity of Manilla by

* [Published August 1, 1878.—Ed.]

Herr v. Othberg. Though few in number, some of them belong to species of which the Philippine habitat has not hitherto rested on indisputable evidence, while two of them have not before been known as being migrants to the archipelago.

Collocalia fuciphaga.

Hirundo fuciphaga, Thunb. Act. Holm. xxxiii. p. 151, t. iv., "Java;" Walden, Ibis, 1874, p. 135. [*Anteà*, p. 260.]

Collocalia linchi, Horsf. & Moore, Cat. E.I. C. Mus. i. p. 100. no. 123, "Java."

A single example of a species of the genus *Collocalia* was sent by H. v. Othberg to the Darmstadt Museum, and, I am assured by Dr. Brüggeman, was obtained in Luzon. It is not separable from the Javan species, *C. linchi*, H. & M., *i. e.* the true *H. fuciphaga* of Thunberg. No species of the genus has hitherto been known to inhabit Luzon; nor has this species been found in any other Philippine island.

Turdus obscurus (92).

The Philippine habitat of this Thrush has hitherto rested solely on Prince Bonaparte's authority (Col. Delattre, p. 28). Three examples from the vicinity of Manilla are sent to me by Professor Koch.

Turdus chrysolaus (93).

The certainty of this Thrush being an inhabitant of the Philippines turned on the authenticity of a skin in Mr. Gould's collection (*cf.* Sclater, Ibis, 1863, p. 197). Four examples from Manilla are in the Darmstadt Museum.

Turdus varius.

Turdus varius, Pallas, Zoogr. R.-Asiatica, i. p. 449.

Professor Newton (Hist. Brit. Birds, pt. iv. p. 254) has remarked that Mr. Gould had received an example of White's Thrush from Manilla. While there could be no possible doubt of the strict accuracy of Professor Newton's determination of the species, I did not feel quite confident that the origin of the specimen was indisputable (for I had also examined it); and the species was therefore not included by me in my list of Philippine Birds. Professor Koch, however, sends me three examples from Manilla.

P.Z.S.1878, p. 430.

Erythropitta kochi. (Plate XXVI. *in orig.*)

Pitta kochi, Brüggemann, Abhandl. naturw. Ver. zu Bremen, v. p. 65, t. iii. f. 6.

Professor Koch has kindly sent me the type specimen of this *Pitta*, from which the accompanying figure is taken. The species is undoubtedly distinct from all the other known members of the subgenus. It is almost as large as *Hydrornis nipalensis.* The tarsus measures nearly two inches. Its specific characters and points of difference are fully detailed by its describer (*l. c.*).

Acrocephalus fasciolatus.

Acrocephalus fasciolatus, G. R. Gray, P. Z. S. 1860, p. 349.

Acrocephalus insularis, Wallace, Ibis, 1862, p. 350.
Calamoherpe fumigata, Swinhoe, P. Z. S. 1863, pp. 91, 293.
Calamoherpe subflavescens, Elliot, P. Z. S. 1870, p. 243.

A single example from Manilla in the yellow under-plumage of *A. fasciolatus*, with which species I identify *A. insularis*. New to the Philippines.

ANTHUS GUSTAVI.

Corydalla gustavi, Swinhoe, P. Z. S. 1871, p. 366; Brüggemann, Abhandl. naturw. Ver. zu Bremen, v. p. 67; Sharpe, Tr. Linn. Soc. ser. 2, Zool. i. p. 338.

Dr. Brüggemann, who first made known the occurrence of this bird in the Philippines (*l. c*), correctly identified the same example Professor Koch has sent to me. It was obtained by Herr v. Othberg near Manilla. Some months later, Mr. Sharpe (*l. c.*) made known that Dr. Steere had discovered the same species in the island of Basilan.

ANTHUS MACULATUS.

Anthus maculatus, Hodgs., Gray, Zool. Misc. p. 83; Tweeddale, P. Z. S. 1877, p. 696*.

Two examples from Manilla are sent by Professor Koch. Mr. Everett also procured it at Monte Alban (*cf.* Tweeddale, *l. c.*).

P.Z.S.1878, p. 611.

Contributions to the Ornithology of the Philippines.—No. IX. *On the Collection made by Mr. A. H. Everett in the Island of Palawan*†. *By* ARTHUR, Marquis of TWEEDDALE, F.R.S., President of the Society. [From the 'Proceedings of the Zoological Society of London,' read May 21, 1878‡, Plates XXXVII. & XXXVIII. *in orig.*]

UNTIL visited by Dr. Steere in July 1874, when he remained for a month at the Spanish settlement of Puerto Princesa, the island of Palawan, so far as is on record, had not been explored by any naturalist. Nothing was known of its zoological productions; and its exact relationship as a zoogeographical area remained an unsolved problem. During his stay at Puerto Princesa Dr. Steere collected examples of 32 species of birds, all of which have been enumerated by Mr. Sharpe§.

At the end of November 1877 Mr. A. H. Everett arrived at Puerto Princesa, and remained until the beginning of January, when, becoming disabled by fever, he was obliged to return to Manilla to recruit his health. He, however, succeeded in collecting specimens of 52 species of birds, 32 of which are additional to those obtained by Dr. Steere. This last gentleman discovered 12 species not sent to me by Mr. Everett; so that the total number of known Palawan species of birds (and all are from Puerto Princesa and its vicinity) now amounts to 64. This small number cannot exhaust the avifauna of this large island; and as Mr. Everett has now happily recovered, and has returned to Palawan, I propose postponing any remarks on the character of the Palawan ornis until we are in possession of the wider evidence which further collections will doubtless supply. Generally, however, it may be affirmed from the data before us that the birds of Palawan represent mostly Bornean genera and species, although a few distinctly Philippine types also occur.

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* [*Anteà*, p. 522.—ED.]

† I treat Palawan as being a Philippine Island in a political sense. It remains to be shown whether it does not in fact belong, zoologically, rather to Borneo.

‡ [Published October 1, 1878.—ED.]

§ Trans. Linn. Soc. ser. 2, Zoology, vol. i.

The following species in the present collection have not hitherto been described:—

4. *Tiga everetti.*
12. *Dicrurus palawanensis.*
17. *Broderipus palawanensis.*
19. *Trichostoma rufifrons.*
20. *Drymocataphus cinereiceps.*
22. *Brachypus cinereifrons.*
25. *Criniger palawanensis.*
34. *Cyrtostomus aurora.*
39. *Corvus pusillus.*

P.Z.S. 1878, p. 612.

1. Tanygnathus luzonensis (3).

[P. Princesa, ♂, January 1878.]

Not separable from all other Philippine examples.

2. Butastur indicus (20).

[P. Princesa, ♂ (?), November 28, 1877: iris bright yellow; cere light wax-yellow; bill and nails black; legs and feet dull yellow.]

3. Chrysocolaptes erythrocephalus.

Chrysocolaptes erythrocephalus, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 315. no. 13, t. xlvi. f. 1.

[P. Princesa, ♂, December 2, 1877: iris crimson; bill pale yellow, tinged with green; feet and claws grey-green. ♀, November 27: iris crimson; bill pale yellow tinged with green; feet and claws greyish green.]

The male example is in full adult plumage. That of the female (hitherto undescribed) resembles the male in all respects excepting the crown of the head and the crest, the feathers of which are ruddy brown, each being tipped with a pale rusty-yellow drop or spot. The cheeks, chin, and throat are washed with dilute crimson, not intense as in the male.

4. Tiga everetti, n. sp. (Plate XXXVII. *in orig.*)

Tiga javanensis (Ljungh.), Sharpe, *t. c.* p. 315. no. 14?

Three examples, two of the adult male and one of the adult female, were obtained near Puerto Princesa by Mr. Everett. They probably belong to the species doubtfully identified by Mr. Sharpe (*l. c.*) with *T. javanensis.* From this species, as well as from all the other species of the genus known to me, the present bird differs in the female having the head and crest uniform dark brown, the latter being broadly terminated with crimson. The lower part of the throat and the upper breast are uniform buffy brown, and not squamate.

Male. Forehead, crown and crest, uropygium, and upper tail-coverts crimson. Many of the dorsal plumes washed with crimson. Lores buffy brown. Space behind the eyes creamy white, each feather narrowly margined with pale brown. A patch commencing below the posterior angle of the eye and including the ear-coverts dark brown, this colour being continued as a narrow band round the occiput. Space below the eye buffy cream-colour, which is continued as a narrow line on the cheek, and expands into a broad stripe down the sides of the neck. A brown stripe commencing at the angle of the mouth and descending down the sides of the neck; a few crimson feathers on the inner edge of this stripe. Chin and upper throat buffy cream-colour, many of the feathers tipped dark brown. Lower throat and crop uniform buffy brown. Breast-feathers pale yellow, very narrowly margined and boldly centred with dark brown; within the brown centres a pale yellow stripe of varying dimensions. Abdominal and ventral feathers P.Z.S. 1878, p. 613. and the under tail-coverts pale yellow, with generally two cross bands of dark brown. Back, wing-coverts, outer edges of secondaries, and exposed surface of tertiaries and scapulars golden. Primaries and rectrices dark brown.

Female. Differs from the male in having the top of the head dark uniform brown, almost black, the crest-plumes being terminated with crimson.

Dimensions:—

	Wing. in.	Tail. in.	Tarsus. in.	Culmen. in.
♂	5·37	4·12	1·00	1·37
♀	5·37	4·12	1·00	1·37

In one example (♂) the lower breast-markings are not so well defined, and the general markings of the lower surface are less pronounced. The upper tail-coverts are mostly black, some only being tipped with crimson, others with golden.

[P. Princesa, ♂, November 25, 1877: iris dark brown; bill black, basal half of mandible grey; feet greenish, nails grey. P. Princesa, ♀, November 27, 1877: iris crimson; other parts as in ♂.]

5. EURYSTOMUS ORIENTALIS (37).

[P. Princesa, ♀, November 29, 1877.]

6. CACOMANTIS MERULINUS (57)?

[P. Princesa, ♂, December 10, 1877: iris bright salmon-red; bill black, mandible light brown; feet yellow, claws black.]

A single example, not sufficiently mature to be identified with certainty.

7. SURNICULUS LUGUBRIS.

Cuculus lugubris, Horsf. Tr. L. S. xiii. p. 175.

[P. Princesa, ♀, December 6, 1877: iris dark brown; bill black; feet dark grey.]

8. PHŒNICOPHAES HARRINGTONI.

Dryococcyx harringtoni, Sharpe, *t. c.* p. 321. no. 34, f. 1.

[P. Princesa, ♂, November 29, 1877: iris light brown; orbital and loral space deep crimson; bill light green, tinged with olive; feet and legs lead-grey; nails dark grey. ♀, December: iris brilliant yellow, with ring of ochreous orange.]

Of other males Mr. Everett notes the iris as being reddish brown.

This Coucal is a representative form of *P. curvirostris* and *P. erythrognathus*, closely resembling both species, but differing structurally in the shape and position of the nostril. Mr. Sharpe (P. Z. S. 1873, p. 604) has generically separated *P. curvirostris* from *P. erythrognathus*, on account of the shape and position of the nostrils in those two species being different, and for the same reason has established (*l. c.*) the genus *Dryococcyx* for the reception of this Palawan representative form*. That three birds, one inhabiting Java, another Borneo, the Malay peninsula, and Sumatra, and the third Palawan, all so closely resembling each other in their colouring and markings that they are difficult to recognize without careful comparison of their shades and tints, should possess nostrils structurally differing in all three is remarkable; but is it a sufficient reason for placing them in three different genera? I can only regard the character as being specific.

P.Z.S.1878, p. 614.

The plumage of the sexes is alike. The amount of dark chestnut on the middle pairs of rectrices varies considerably, from three inches to one inch in depth.

9. CENTROCOCCYX EURYCERCUS.

Centropus eurycercus, A. Hay, Blyth, J. A. S. B. 1845, p. 551.

[P. Princesa, ♂, January 8, 1878: iris bright crimson; bill, legs, and feet black. ♂ (juv.), December 9, 1877: iris neutral tint; bill and legs jet-black.]

Rather smaller than the Malaccan type.

10. LANIUS LUZONIENSIS (72).

[P. Princesa, ♂ ♀, December 6 and 11, 1877.]

11. GRAUCALUS SUMATRENSIS.

Ceblepyris sumatrensis, S. Müller, Verh. Land- en Volkenk. p. 191.

[P. Princesa, ♀, December 1877: iris light lemon-yellow.]

Does not differ from Sumatran, Malaccan, and Bornean examples.

12. DICRURUS PALAWANENSIS, n. sp.

In the Philippines three species of Dicruridæ are known:—*D. balicassius*, type of the genus *Dicrurus*; *D. mirabilis*, its representative form; and *D. striatus*. This last, by its even, almost unfurcated tail, resembles *D. balicassius* in structure, but in its general colouring and in the distribution of its markings exhibits a close relationship to the Papuan and Malaccan species associated by Mr. Sharpe with *Chibia hottentotta*. These Papuan species seemed to me to belong to a group distinct from that represented by *D. balicassius* on the one hand and *Chibia hottentotta* on the other; and their geographical range favoured this view†. But Mr. Everett has discovered in Palawan a species which undoubtedly belongs to the Papuan section of the Dicruridæ; and it would appear that, with *D. striatus* as a connecting link, the Papuan and the Philippine species must be regarded as members of one section of the family, to which the title of *Dicrurus* should be applied. Besides this undescribed species, Palawan is inhabited by at least one other member

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* The type was from Balabac; but the Palawan bird does not appear to differ.

† Count T. Salvadori has recently (P. Z. S. 1878, p. 88, note) proposed the generic title of *Dicruropsis* for this group.

P.Z.S.1878, p. 615.

of the family, belonging to the genus *Buchanga*; and Palawan and Lombock are the only two islands or areas known to me where there is a second species associated with a true species of *Dicrurus*, unless, indeed, *D. læmostictus* is shown to also inhabit New Ireland or *D. megarhynchus* New Britain.

Male and female. Upper surface of wings and tail burnished bronze-green. Glistening scale-like feathers on crown of head bluish metallic green. Neck-hackles and pectoral and gular spots dark metallic steel-blue; these spots, which extend from lower part of the throat and cover the breast, are lengthened and ovate in form rather than round, and occupy the tips of the feathers. With their exception, the entire under surface is dull jet-black. The nape, back, and uropygium is black with a blue gloss. The tail is forked for about one inch in depth; and the distance between the extremities of the outer pair of rectrices is nearly three inches; upper tail-coverts tipped with metallic green.

Dimensions:—

	Wing.	Tail.	Tarsus.	Culmen.
	in.	in.	in.	in.
♂ ♀	5·5	5·5	1·0	1·5

[P. Princesa, ♂, November 1877: iris crimson; bill and feet black. ♀, December: iris deep brown.]

All the female birds have the iris noted as being deep brown by Mr. Everett. On the label of one of the males Mr. Everett has written:—"Iris in the living bird deep crimson."

D. palawanensis most nearly resembles *D. leucops*, *D. pectoralis*, and *D. læmostictus*; but, besides being much smaller, the shape and position of the pectoral and gular spots are different, not being so round, but narrower.

13. BUCHANGA LEUCOPHÆA.

Dicrurus leucophæus, Vieill. Nouv. Dict. d'Hist. Nat. ix. p. 587.

Buchanga cineracea (Horsf.), Sharpe, *t. c.* p. 324. no. 48.

[P. Princesa, ♂, November 29, 1877: iris crimson; bill and feet black. ♂, December: iris deep rich orange-brown. ♀, December: iris orange-brown.]

14. CYORNIS BANYUMAS.

Muscicapa banyumas, Horsf. Tr. L. S. xiii. p. 146.

Muscicapa cantatrix, Temm. Pl. Col. 226.

[P. Princesa, ♂, December 1877: iris chocolate; bill black; legs and feet purplish grey; claws dark grey. ♀, January 1877: iris chocolate; bill black; legs lead-grey.]

The female of this species is well described, but badly figured, by Temminck (*l. c.*).

15. HYPOTHYMIS AZUREA (85).

[P. Princesa, ♀, December 1877: iris deep brown; bill entirely black, interior of gape golden; legs and feet dark blue-grey.]

16. Hirundo javanica.

Hirundo javanica, Sparrm. Mus. Carls. t. 100.

[P. Princesa, ♀, December 7, 1877.]

17. Broderipus palawanensis, n. sp.

P.Z.S. 1878, p. 616.

[P. Princesa, ♀, January 1878.]

A representative form of *B. acrorhynchus*, but smaller and with a shorter bill. The yellow space included with the black horseshoe-mark on the head extends far beyond the eyes, and measures in depth over one inch. There is no yellow alar spot.

Dimensions:—

	Wing. in.	Tail. in.	Tarsus. in.	Culmen. in.
♀	5·9	4·5	1·0	1·5

18. Oriolus xanthonotus.

Oriolus xanthonotus, Horsf. Tr. L. S. xiii. p. 153; Zool. Res. Java, t. 46; Temm. Pl. Col. 214.

[P. Princesa, ♂, December 30, 1877: iris crimson; bill burnt sienna; legs dark lead-grey.

In the colouring and markings the single specimen sent by Mr. Everett (an adult male) is not to be distinguished from Malaccan, Bornean, and Sumatran individuals; but it greatly exceeds them by its dimensions—wing 4·63 inches, tail 3·50.

19. Trichostoma rufifrons, n. sp. (Plate XXXVIII. *in orig.*)

Mr. Everett has sent three skins of a Timeliine bird which appear to belong to a somewhat aberrant form of the genus *Trichostoma*. The bill, seen in profile, has the exact contour of the bill of *T. abboti*, but is somewhat stouter; at the base it is slightly broader; and the rictal bristles are longer. The tail is also more graduated, the outer pair of rectrices being shorter than the penultimate pair, which, again, are not quite so long as the remainder. Perhaps this species is congeneric with the two described and figured by Mr. Sharpe (*t. c.*) under the titles of *Zeocephus cinnamomeus* and *Z. cyanescens* (species with which I am unacquainted); but if so, they cannot be classed under the Muscicapidæ.

Male and female. Forehead bright rufous-brown, contrasting with the duller rufous-brown of the vertex and occiput. Nape and back earthy brown, tinged with olive and paler on the nape. Long, lax feathers of the uropygium bright rufous. Upper tail-coverts pure chestnut; rectrices dull chestnut. Lores and supercilium, which extends behind the eye, pure grey. Cheeks and ear-coverts greyish brown. Chin, throat, and vent pure white. Breast, abdomen, flanks, under tail-coverts, and under wing-coverts tawny, with a pale brown shade on the breast. Primaries brown, edged with pale tawny chestnut. Remaining quills and the wing-coverts dull chestnut, tinged with the colouring of the back.

Dimensions:—

	Wing. in.	Tail. in.	Tarsus. in.	Culmen. in.
♂	3·37	3·50	1·00	0·94
♀	3·12	3·25	0·95	0·87

P.Z.S.1878, p. 617. [P. Princesa, ♂ ♀, December 10, 1877: iris pale Naples-yellow; bill dark plumbeous; feet pale plumbeous.]

20. Drymocataphus cinereiceps, n. sp.

This species is congeneric with *Brachypteryx malaccensis*, Hartl., which Count T. Salvadori retains under the genus *Brachypteryx*. But *B. malaccensis* is certainly nearer to *Drymocataphus* than to *Brachypteryx*, although it may perhaps be advisable to form a separate genus for its reception, more especially as the species which inhabits Palawan, about to be described, is identical in structure with the Malaccan and Bornean form (which is also said to inhabit Sumatra), and also as *Brachypteryx murinus* is congeneric.

Female. Forehead, crown, and occiput dark iron-grey. Ear-coverts, space before the eye, and nape pale grey. Back, uropygium, scapulars, upper tail-coverts, and exposed surface of wing and tail ruddy brown, brighter than in *D. malaccensis.* Dorsal plumes pale-shafted. Chin, throat, upper breast, abdomen, and vent pure white. Flanks, a band across the breast, under tail-coverts, and thigh-coverts, wing-lining, and axillaries pale rufous-brown.

Dimensions:—

	Wing. in.	Tail. in.	Tarsus. in.	Culmen. in.
♀	2·50	1·00	1·06	0·75

[P. Princesa, ♀, January 1878: iris burnt sienna-orange; bill brownish grey, mandible white; legs pallid, front of the tarsi tinged brown.]

Distinguished from *D. malaccensis* by its dark-grey head, its light-grey ear-coverts, and the brighter rufous of the dorsal plumage.

21. Mixornis woodi.

Mixornis woodi, Sharpe, *t. c.* p. 331. no. 69.

[P. Princesa, ♂, December 5, 1877: iris dark ochre-yellow; bill black, mandible grey; legs and feet horn-yellow. ♀, January 1878: iris ochreous orange; bill dark grey, mandible pale grey; legs greenish olive.]

22. Brachypus cinereifrons, n. sp.

Male and female. Chin, throat, and breast pale cinereous brown, palest and whitest on the chin and throat. Abdomen and ventral region pale yellowish white, in some examples with a certain admixture of the colouring of the breast. Flanks pale earthy-brown. Thigh-coverts ochreous yellow. Under tail-coverts light yellow, with a slight ochreous tinge. Wing-lining and axillaries pale yellow; carpal edge ochreous yellow. Ear-coverts pale cinereous, with almost white shafts. Space before the eye uniform dull brown. Cheeks dull cinereous brown, with a few white-shafted feathers. Head and nape olive-brown, tinged with pale grey, the frontal feathers being distinctly tipped and centred with pale grey. Back, scapulars, wing-coverts, and uropygium olive-brown, olive predominating, the long, lax, and fluffy uropygial feathers being of a slightly lighter shade of olive-green. Upper tail-coverts olive-green. Quills light brown, margined with a brighter olive-green. Rectrices light brown, edged with olive-green, and some with pallid yellowish apices. Underneath pale brown, washed with very light yellowish green. Shafts above brown, below yellowish white. P.Z.S. 1878, p. 618.

Dimensions:—

	Wing. in.	Tail. in.	Tarsus. in.	Culmen. in.
♂	3·37	3·37	0·88	0·88
♀	3·25	3·12	0·87	0·75

[P. Princesa, ♂, December 14, 1877: iris deep rich burnt-sienna; bill blackish brown; legs and feet purple-brown. ♂, November 28: iris chocolate; bill dark brown; legs pale brown.]

One example marked ♀ equals the ♂ in its dimensions.

Mr. Everett procured a good series of this short-footed Thrush. At first sight it can be easily mistaken for *B. plumosus* (Blyth), of which it is a representative form. It is to be distinguished by its pale abdomen, which in *B. plumosus* is browner and nearly uniform with the breast, by its pale greyish breast, by its yellow under tail-coverts, which in *B. plumosus* are ochreous-brown, and by its pale yellow, and not ochreous, wing-lining and axillaries, and by the cinereous or pearl-grey edgings and centres of the frontal plumes. Nor is the green of the quills and rectrices nearly so developed. The colouring of the abdominal plumage resembles that of *Iole olivacea*, but is not so distinctly yellow.

23. Brachypodius melanocephalus.

Lanius melanocephalus, Gm. S. N. i. p. 309.

[P. Princesa, ♂ ♀, January 1878: iris violet-blue; bill and legs black.]

Undistinguishable from typical examples.

24. Criniger frater.

Criniger frater, Sharpe, *t. c.* p. 334. no. 77.

[P. Princesa, ♂, December 1, 1877: iris red-brown; bill horn-grey, darker on culmen. ♀, December: iris red-brown; bill dark grey; mandible whitish; legs, feet, and nails pallid brown.]

25. Criniger palawanensis, n. sp.

Male and female. Chin, lower breast, abdomen, vent, under tail-coverts, wing-lining, axillaries, and carpal edge bright yellow. Feathers of the throat, cheeks, and upper breast of the same yellow, the centres towards the apices being pale grey. These parts have thus a streaked appearance. Sides of the breast and the flanks clouded with pale brown; a few of the nareal plumes bright yellow. Space before the eye yellowish grey. Head, ear-coverts, and nape reddish brown, the frontal and coronal plumes being sublanceolate and with pale central streaks. P.Z.S.1878, p. 619. Back, scapulars, wing-coverts, and uropygium ruddy olive-brown. Upper tail-coverts, which are almost concealed by the mass of loose and lax uropygial plumes, ruddy brown. Rectrices of a darker tone than the tail-coverts. Quills brown, margined with the colour of the dorsal plumage.

Dimensions:—

	Wing. in.	Tail. in.	Tarsus. in.	Culmen. in.
♂ ♀	3·25	3·20	0·75	0·87

[P. Princesa, ♂, January 1878: iris lemon-yellow. ♀, December 27, 1877: iris lemon-yellow; bill dark smoky grey, the mandible whitish; legs and claws pale brown.]

26. Phyllornis palawanensis.

Phyllornis palawanensis, Sharpe, *t. c.* p. 333. no. 72, t. 50. f. 1, 2.

[P. Princesa, ♂ ♀, January 1878.]

The only example marked ♀ has the terminal portions of the moustache deep blue. Two examples marked ♂ have it white. Mr. Sharpe's conclusions (*l. c.*) on the point were the reverse. This is one of the most beautiful species of the genus. The throat is bright golden; and the whole colouring of Mr. Keuleman's figures (*l. c.*) is much too pallid.

27. Ægithina scapularis.

Iora scapularis, Horsf. Tr. L. S. xiii. p. 158.

[P. Princesa, ♂ ♀, December 12, 1877: iris white; bill lead-grey, the culmen black; legs and feet bluish grey; claws black.]

All the males are without a trace of black on the upper parts. They agree with Bornean and Malaccan examples (*I. viridis*, Bp.?). Bornean individuals are stated by Count T. Salvadori to be identical with Javan (Ucc. Borneo, p. 191).

28. Monticola solitarius (103).

[P. Princesa, ♂ ♀, December 1877.]

29. Cittocincla nigra.

Cittocincla nigra, Sharpe, *t. c.* p. 335. no. 82, t. lii. f. 1, 2.

[P. Princesa, ♂, December 14, 1877: iris very dark brown; bill, legs, and feet black. ♀, January 1878: iris dark brown; bill black; legs lead-grey.]

30. ORTHOTOMUS RUFICEPS.

Edela ruficeps, Lesson, Tr. d'Orn. p. 309.

[P. Princesa, ♂ ♀, December 1877.]

31. ANTHUS MACULATUS.

Anthus maculatus, Hodgs. Gray's Zool. Misc. p. 83; Tweeddale, P. Z. S. 1877, p. 696. no. 48. [*Anteà*, p. 522.]

[P. Princesa, ♀, January 2, 1878.]

32. MYZANTHE PYGMÆA (121). P.Z.S.1878, p. 620.

[P. Princesa, ♂, January 7, 1877: iris dark brown; bill and legs black.]

33. NECTAROPHILA SPERATA (122).

[P. Princesa, ♂, January 1878. ♀, December 29, 1878: iris warm brown.]

Two males, not adult; the violet throat and plastron bounded on both sides with a white border, the scarlet breast mixed with white, the crown dingy dull brown.

34. CYRTOSTOMUS AURORA, n. sp.

Notwithstanding that Captain Shelley, in his beautiful work on the Sun-birds, includes the large group of Asiatic and Australian Nectariniidæ, of which *C. jugularis* and *C. asiaticus* may be taken as types, along with a number of other species, under Cuvier's genus *Cinnyris*, I still adhere to the view expressed by me (Ibis, 1870, p. 19) [*anteà*, p. 71] that these Sun-birds form a natural, distinctive, and separate section of the family. For it I adopted Dr. Cabanis's generic title *Arachnechthra*; but as the type of that genus is *C. lotenia*, L., which may be considered generically separable (although not so in my opinion), and as Dr. Cabanis established his genus *Cyrtostomus* (type *C. jugularis*, L.) before that of *Arachnechthra*, according to strict rule, the generic title of *Cyrtostomus* should be employed; and I observe that this is the view of Count Salvadori. There are now twelve species of this group described—namely, *C. asiaticus*, *C. lotenia*, *C. osea*, *C. brevirostris*, *C. flammaxillaris*, *C. andamanicus*, *C. rhizophoræ*, *C. pectoralis*, *C. frenatus*, *C. jugularis*, *C. zenobia*, and *C. solaris*. To this list Mr. Everett's researches in Palawan enable me to add a thirteenth.

Male. Above uniform dark olive-green. Forehead, chin, throat, cheeks, and upper breast metallic steel-blue with shades of green and violet in certain lights. Lower breast fiery orange-red. Remainder of lower surface, under tail-coverts, and wing-lining bright yellow. Quills brown, faintly edged with olive-green. Rectrices black; terminal half of outer pair white, a broad white terminal patch on the penultimate pair; apices of third pair fringed with white, of fourth pair still less so.

Female. Above and ear-coverts olive-green, slightly lighter in shade than that of male. Superciliaries, cheeks, and all the under surface and the wing-lining bright yellow. Wing-feathers brown, margined with olive-green. Rectrices as in male.

Dimensions:—

	Wing. in.	Tail. in.	Tarsus. in.	Culmen. in.
♂	2·25	1·62	0·62	1·00
♀	2·00	1·62	0·60	0·87

[P. Princesa, ♂, November 30, 1877: iris deep crimson; bill and legs black. ♀, January: iris dark brown; bill and legs black.]

P.Z.S.1878, p. 621. The flame-coloured lower breast at once distinguishes this Sun-bird from all others. Its nearest ally is *C. solaris*, in which the flame-colour covers the abdomen also.

35. CHALCOSTETHA INSIGNIS.

Nectarinia insignis, Jardine, Nat. Lib. xxxvi. p. 274.

[P. Princesa, ♂, January 1878: iris warm brown; bill and legs black.]

A single example of an adult male, and not to be distinguished from Sumatran and Malaccan individuals.

36. ÆTHOPYGA SHELLEYI.

Æthopyga shelleyi, Sharpe, Nature, 3rd August, 1876, p. 297; Tr. L. S. 2nd ser. Zool. i. p. 343. no. 105; Shelley, Monogr. Cinnyridæ, pt. iii. t.

[P. Princesa, ♂, December 2, 1877: iris brown; bill black; legs and feet very dark brown. ♀ (?), January 4, 1877: bill and legs dark brown.]

The female has not been described; and it is with some doubt that I so identify the single skin noted above. The chin, throat, and upper breast is pale grey; the lower breast and abdomen and wing-lining are pale yellowish white. The vent and under tail-coverts of a more decided shade of yellow. The head is greyish olive-brown. Remainder of upper surface a clear olive-green, lightest on the upper tail-coverts. The quills and rectrices are dark brown edged with olive-green, having a slight ruddy hue. Cheeks and ear-coverts pale grey with a greenish tinge. The dimensions are sensibly smaller than those of the male—wing 1·75; culmen 0·56.

37. ANTHREPTES MALACCENSIS.

Certhia malaccensis, Scopoli, Del. Flor. et Faun. Insubr. ii. p. 91. no. 62.

[P. Princesa, ♂, January 1878: iris Indian red; bill black; legs greyish olive; scales of feet yellow. ♀, December 29, 1877: iris bright Indian red; bill very dark sepia-brown; legs and feet yellowish olive; soles of feet yellow; claws pale brown. ♂ (jun.), November 27, 1877: iris Indian red; bill dark brown; legs yellowish olive.]

The example of the young male above noted is in the exact plumage of the adult female, its sex being betrayed by a couple of metallic plumes on the crown.

38. ARACHNOTHERA DILUTIOR.

Arachnothera dilutior, Sharpe, Nature, 3rd August, 1876, p. 297; *t. c.* p. 341. no. 100; Shelley, Cinnyridæ, pt. iii. t.

[P. Princesa, ♂, December 6, 1877: iris brown; bill black; legs and feet dark grey. ♀, January 1878: iris dark brown; denuded orbital skin green-yellow; bill black; mandible grey; legs and feet blue-grey.]

Bill of female considerably shorter than that of male.

39. CORVUS PUSILLUS, n. sp.

P.Z.S. 1878, p. 622.

Female. Basal portion of plumage white. Above purple-black, with a slight greyish shade. Wing-coverts and outer margins of rectrices deep purple-black. Plumage underneath dull ashy black, with a purplish gloss on cheeks and throat. Contour of bill as in the *C.-validus* group.

Dimensions :—

	Wing.	Tail.	Tarsus.	Culmen.
	in.	in.	in.	in.
♀	8·75	5·25	1·75	2·12

[P. Princesa, ♀, December 27, 1877: iris deep brown; bill, legs, and claws shining black.]

This Crow, or rather small Raven, is a diminutive form of *C. validus* and its allies. It has no affinity with true *C. enca.*

40. CALORNIS PANAYENSIS (128).

Calornis chalybeus (Horsf.), Sharpe, *t. c.* p. 343. no. 111.

[P. Princesa, ♀, December 1877: iris brilliant red; bill and feet black.]

A large series is sent by Mr. Everett, which I refer to the Philippine rather than to the Bornean species.

41. GRACULA JAVANENSIS.

Corvus javanensis, Osbeck, Voy. China & E. Ind. i. p. 157, "Java" (Eng. tr. 1771).

[P. Princesa, ♂, January 1878: iris deep brown; bill fine deep orange; wattles and legs chrome-yellow; claws dark brown. ♀, December 3, 1877: iris deep brown; bill red-orange; wattles orange-yellow; legs yellow.]

These examples are not to be distinguished from Bornean, although they are somewhat smaller and have slenderer bills than Javan and Sumatran individuals.

42. OXYCERCA EVERETTI.

Oxycerca everetti, Tweeddale, Ann. Mag. N.H. (4), xx. p. 96, P.Z.S. 1877*, p. 699, t. lxxiii. f. 2.

[P. Princesa, ♂, December 1877: iris rich deep orange-brown; bill, maxilla black, mandible pale grey; feet, legs, and claws dark lead-grey. ♂ juv.: iris umber-brown; mandible blackish; maxilla black; angle of gape pure white; legs, feet, and claws lead-grey.]

Oxycerca everetti is a very closely allied form of *O. leucogastra* of Malacca and Borneo, mainly to be distinguished by the crown of the head being striated in the former and uniform in the latter, and the breast and general colouring being nutmeg-brown and not sooty brown. These Palawan examples, although not quite identical with either species, most nearly resemble *O. everetti.* The general tone of colour is nutmeg-brown; but the crown of the head is not striated.

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* [*Antea*, p. 524.—ED.]

P.Z.S. 1878, p. 623.

43. Osmotreron vernans (135).

[P. Princesa, ♀, January 2, 1878: iris (in dead bird) orange; bill lead-grey, base yellow-olive; feet carmine; claws grey.]

44. Treron nasica.

Treron nasica, Schlegel, Ned. Tijdschr. Dierk. i. p. 67.

[P. Princesa, ♂ ♀, January 1878: iris deep brown, with outer ring of burnt sienna-orange; orbital skin bright emerald-green; base of bill dull crimson, the rest pale greenish-yellow; feet carmine.]

45. Carpophaga ænea (141).

[P. Princesa, ♂, January 1878: iris pure crimson; bill bluish grey; feet violet-carmine; nails dark grey. ♀, December 28, 1877: iris deep crimson; orbital ring crimson; bill light grey; feet carmine; nails dark grey.]

46. Polyplectron napoleonis.

Polyplectron napoleonis, Less. Tr. d'Orn., add. et corr. p. 650.

Polyplectron emphanum, Temm. Pl. Col. 540; Elliot, Phasianidæ, vol. i. pl. 9.

[P. Princesa, ♂, January 1878: iris dark rich brown; orbital and loral regions crimson; bare setigerous skin above the eyes livid brown; bill, including vaulted base of maxilla, very dark brown, tip horny; legs, feet, and nails purple-brown.

Native name "Tandikan."

♀ juv.: orbital skin black, otherwise not different from the male.]

The male of this beautiful Pheasant was first described and figured by Temminck on the 14th of May, 1831, from a single example in the museum of the Prince of Essling (*l. c.*). Its habitat was unknown, but was believed to be either one of the Sunda Islands or else one of the Moluccas. In the same year, but earlier, Lesson (Tr. p. 437) enumerated the species under number 47 of the genus *Polyplectron*, and called it *P. napoleonis*; but as he gave no description *, his title falls.

A second specimen of the species was afterwards acquired from Messrs. Verreaux by the British Museum; but the habitat still remained unknown, the late Mr. G. R. Gray giving it as the Moluccas (List Birds B. Mus., Gallinæ, 1867, p. 25). Mr Sclater (P. Z. S. 1863, p. 124) attributed its habitat, with some doubt, to the island of Borneo, in which he was followed by Mr. Elliot (*l. c.*). Mr. Everett has now cleared up all doubts; for he has found this Pheasant living in the island of Palawan near the Spanish settlement of Puerto Princesa, and has sent me three examples—one of the adult male, one of the immature female, and one of an immature male.

This is the second instance in which Mr. Everett has established the correct habitat of a little-known and remarkable bird.

The young male has the lengthened crest-plumes brown, partially tinged with green. The brilliant bluish-purple wing-coverts and interscapulars of the fully adult are absent, only a trace presenting itself on one covert of each wing. Whereas in the adult the nape and neck are black with brilliant green borders to the feathers, and the whole throat and breast are black with green reflexions, the immature bird is brown. The quills and underparts are also very dark brown in the adult, whereas in the immature bird they are light brown. The ocelli on the rectrices in the immature bird are not so perfectly formed, and the dark brown ground-colour of the dorsal plumage and of the rectrices is not so well defined.

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* [Described in the "additions et corrections," Tweeddale, P. Z. S. 1878, p. 792.—Ed.]

P.Z.S.1878, p. 624.

The skin of the female (immature) has the chin, space before the eye, and throat dingy white. The green ocelli only occur on some of the rectrices, and are small. The remainder of the plumage resembles that of the young male, the crest being shorter and uniform brown.

47. Megapodius cumingi.

Megapodius cumingii, Dillwyn, P. Z. S. 1851, p. 118, t. 39.

[P. Princesa, ♂, January 1878: iris warm brown; orbital skin coral; auricular region washed with bright red; bill horn-yellow; legs reddish, brighter than in female; tarsal scutellæ and feet dark olivaceous brown; the red of the face brighter than in female. ♂ juv., January 1878: character of soft parts as in mature male, only paler. ♀, January 2, 1878: iris warm brown; bill horn-yellow; orbital skin coral; auricular region washed with vermilion-red (not crimson); legs yellowish grey, the tarsal scutellæ dark grey.

Note.—In these birds the bill is sometimes horn-yellow, sometimes the same more or less deeply tinged with brown on culmen and at the base. "Tabun" of the natives.]

Dimensions:—

	Wing.	Tail.	Tarsus.	Culmen.
	in.	in.	in.	in.
♂	9·00	3·50	2·50	1·25
♀	9·25	3·50	2·50	1·18

The Palawan Megapode closely resembles the Labuan (*M. cumingi*), and can hardly be separated specifically. In this view Mr. Sharpe concurs.

48. Eudromias geoffroyi (161).

[P. Princesa, ♂, November 29, 1877.]

49. Ægialites cantianus.

Charadrius cantianus, Lath. Suppl. Ind. Orn. p. lxvi.

[P. Princesa, ♀, November 29, 1877.]

50. Tringoides hypoleucus (183).

[P. Princesa, ♀, December 11, 1877.]

51. Bubulcus coromandus (194).

[P. Princesa, ♂ ♀, December 1877.]
Forehead in both examples buffy yellow.

52. Butorides javanica (197).

[P. Princesa, ♀ juv., January 6, 1878.]

Orn. Misc. iii. p. 169.

On Poliohierax insignis. By Arthur, Marquis of Tweeddale, F.R.S.

[From Rowley's 'Ornithological Miscellany,' vol. iii. pt. 14, May 1878, Plate CIII. *in orig.*]

Poliohierax insignis.

Polihierax insignis, Walden, P. Z. S. 1871, p. 627 [*anteà*, p. 113]; Ibis, 1872, pp. 467* & 471 [*anteà*, p. 233].

Lithofalco feildeni, Hume, Pr. A. S. B. 1872, pp. 70 & 71.

Poliohierax insignis, Walden, Sharpe, Cat. *Accipitres*, Brit. Mus. 1874, p. 370.

Polihierax feildeni, Hume, Str. F. 1875, pp. 14, 19, & 269.

Polihierax insignis, Walden, Sclater, Str. F. 1875, p. 417.

Poliohierax insignis, Walden, Blyth, Birds of Burma, 1875, p. 59. no. 14.

The subject of the accompanying Plate was first discovered by my friend the late Colonel Lloyd, Deputy Commissioner at Tonghoo, in British Burma. Examples of both sexes were sent by him to me in the month of August 1871. As I was unfortunately prevented from exhibiting them myself at the next scientific meeting of the Zoological Society, on the 7th of November, I entrusted them to Mr. Sclater, with a short description and a proposed title—the designation adopted above. Mr. Sclater exhibited the specimens, read my notes on them, and before the meeting announced the title I proposed. In due course these facts were recorded in the 'Proceedings' of the Zoological Society (*l. c.*).

Orn. Misc. iii. p. 170. In the month of May 1872 Mr. Hume, having received specimens of the same bird from Captain Feilden, described them as belonging to an unknown species, and bestowed the title of *Lithofalco feildeni.*

To Captain Feilden we are indebted for valuable remarks on the various phases of plumage this Falcon assumes, and for a full description of its habits (*l. c.*).

Mr. Oates has also added to our knowledge of the species.

From a zoo-geographical point of view, the occurrence of this bird in Burma is of the highest interest. It belongs to a genus the type and only other member of which occurs in Africa, *P. semitorquatus* (Smith).

At present, *P. insignis* is only known as an inhabitant of Northern British Burma.

P.Z.S. 1878, p. 708.

Contributions to the Ornithology of the Philippines—No. X. *On the Collection made by Mr. A. H. Everett in the Island of Bohol.* By Arthur, Marquis of Tweeddale, F.R.S., President of the Society. [From the 'Proceedings of the Zoological Society of London,' read June 18, 1878†.]

The island of Bohol lies between Leyte and Zebu, and is situated about seventy miles N.W. of Mindanao. It has a length of about forty miles and a breadth of thirty miles. After leaving Leyte, Mr. Everett stopped for a week at Talibon, on the north coast of the island, and then left for Palawan, while his brother proceeded to the interior of the island to collect. There he found a country covered with grass 12 feet high, and with no forest except on the tops of a few hills. Birds were scarce; and he had to return stricken with fever. The collection obtained in North Bohol contains representatives of 47 species; and although all belong to previously known birds, seven of them have not been hitherto recorded as being inhabitants of the Philippines. These are:—

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* In the British-Museum Catalogue (vol. i. *Accipitres*), page 200 is quoted in error.

† [Published October 1, 1878.—Ed.]

Cisticola cursitans.
Alauda wattersi.
Terekia cinerea.
Limicola platyrhyncha.
Limosa lapponica.
Tringa albescens.
Strepsilas interpres.

The rest of the species are generally distributed throughout the archipelago, with perhaps the exception of *Lanius nasutus*, which appears to be a northern form, and *Orthotomus frontalis* and *Loriculus hartlaubi*, which are southern species.

1. Loriculus hartlaubi (7)? P.Z.S. 1878, p. 709.

[Bohol, ♀, October.]

Only one example of a female, and not in full dress. It agrees with individuals of true *L. hartlaubi* in a similar stage of plumage, but has the maxilla shorter by one tenth of an inch.

2. Haliastur intermedius (17).

[N. Bohol, ♂ ♀, October.]

3. Butastur indicus (20).

[N. Bohol, ♀, October: iris golden-yellow; bill black; cere and base of bill bright chrome-yellow; legs and feet dirty chrome-yellow; nails black.]

4. Merops philippinus (35).

[N. Bohol, ♂, October.]

5. Alcedo bengalensis (38).

[N. Bohol, ♀, October.]

6. Sauropatis chloris (47).

[N. Bohol, ♂ ♀, October.]

7. Cacomantis merulinus (57).

[N. Bohol, ♂, October: iris light red; bill black; base of mandible reddish; nails black; feet and legs waxy Naples-yellow.]

The above note pertains to the adult. Two other examples are in rufous and brown-banded plumage.

8. CENTROCOCCYX VIRIDIS (64).

[N. Bohol, ♂ ♀, October.]
The male is immature; the female adult.]

9. LANIUS NASUTUS (70).

[N. Bohol, ♂ ♀, October and November.]

10. LANIUS LUCIONENSIS (72).

[N. Bohol, ♂ ♀, October and November.]

11. ARTAMUS LEUCORHYNCHUS (73).

[N. Bohol, ♂ ♀, October and November.]

12. LALAGE DOMINICA (76).

[N. Bohol, ♂, November.]

13. LEUCOCERCA NIGRITORQUIS (83).

[N. Bohol, ♂ ♀, October.]

14. HIRUNDO JAVANICA.

Hirundo javanica, Sparrm. Mus. Carls. t. 100.

[N. Bohol, ♂ ♀, October.]

P.Z.S.1878, p. 710. 15. BRODERIPUS ACRORHYNCHUS (90).

[N. Bohol, ♀, October and November.]

16. IXUS GOIAVIER (99).

[N. Bohol, ♀, October.]

17. PRATINCOLA CAPRATA (104).

[N. Bohol, ♂, November. Locust in gizzard.]

18. CISTICOLA CURSITANS.

Prinia cursitans, Franklin, P. Z. S. 1831, p. 118; Dresser, B. of Europe, parts lxi., lxii.

[N. Bohol, ♂, October: iris yellow-brown.]

Four examples, identical with Indian individuals, but distinct from the Negros example referred to, P. Z. S. 1878, p. 285. no. 31. [*Anteà*, p. 591.]

19. ORTHOTOMUS FRONTALIS.

Orthotomus frontalis, Sharpe, Ibis, 1877, p. 112, t. ii. f. 1; Tr. L. S. ser. 2, Zool. i. p. 336. no. 85.

[N. Bohol, ♂ ♀, October.]

20. BUDYTES VIRIDIS (114).

[N. Bohol, ♂ ♀, November.]

21. CORYDALLA LUGUBRIS (117).

[N. Bohol, ♂ ♀, October and November.]

22. CYRTOSTOMUS JUGULARIS (123).

[N. Bohol, ♀, October.]

23. CORVUS PHILIPPINUS (125).

[N. Bohol, ♂ ♀, November.]
Female smaller than the male.

24. CALORNIS PANAYENSIS (128).

[N. Bohol, ♂ ♀, October.]

25. MUNIA JAGORI (132).

[N. Bohol, ♂, October.]

26. ALAUDA WATTERSI.

Alauda wattersi, Swinhoe, P. Z. S. 1871, p. 389.

[N. Bohol, ♂, October.]

A single example of the genus *Alauda*, which most nearly agrees with the South-Formosan race of *A. cœlivox*, separated under the above title by Mr. Swinhoe. The occurrence in the Philippines of any member of the genus has not before been recorded.

27. OSMOTRERON VERNANS (135).

[N. Bohol, ♂ ♀, October.]

28. TURTUR DUSSUMIERI (147). P.Z.S. 1878, p. 711.

[N. Bohol, ♂ ♀, October and November.]

29. CHARADRIUS FULVUS (159).

[N. Bohol, ♂ ♀, October.]

30. EUDROMIAS GEOFFROYI (161).

[N. Bohol, ♂ ♀, October and November.]

31. EUDROMIAS MONGOLICUS (163).

[N. Bohol, ♂ ♀, October and November.]

32. Ægialitis dubia (162).

[N. Bohol, ♀, October.]

33. Ægialitis cantiana.

[N. Bohol, ♀, October.]

34. Ægialitis peronii.

Charadrius peronii, Temminck, Schlegel, Mus. Pays-Bas, Cursores, p. 33.

Ægialitis, sp.?

[N. Bohol, ♂, November.]

35. Strepsilas interpres.

Tringa interpres, Linn. S. N. i. p. 248.

[N. Bohol, ♂, November. ♀, November: iris chocolate; nails and bill black; legs and feet dirty orange.]

New to the Philippines.

36. Limosa lapponica.

[N. Bohol, ♂, November.]

37. Rhyacophilus glareola (182).

[N. Bohol, ♂, November: iris dark brown; bill and nails black; legs and feet yellow-green.]

38. Tringoides hypoleucus (183).

[N. Bohol, ♂ ♀, October and November.]

39. Totanus incanus.

Scolopax incanus, Gm. S. N. i. p. 658.

[N. Bohol, ♂ ♀, November: iris chocolate-brown; legs and feet dirty chrome; nails black; bill dark dull grey, base yellow.]

40. Terekia cinerea.

Scolopax cinerea, Guldenstadt, N. Comment. Ac. Sc. Imp. Petropol. xix. p. 473, t. 19 (1775).

[N. Bohol, ♂ ♀, October.]

New to the Philippines.

P.Z.S. 1878, p. 712.

41. Limicola platyrhyncha.

Tringa platyrhyncha, Temm. Man. d'Orn. p. 398 (1815).

[N. Bohol, ♀, October.]

The specimens have been submitted to Mr. Dresser, who is of opinion that they belong to this species and not to *L. sibirica*.

42. Tringa albescens.

Tringa albescens, Temminck, Pl. Col. 41. f. 2.

[N. Bohol, ♂ ♀, October and November.]
New to the Philippines.

43. Gallinago scolopacina (187).

[N. Bohol, ♂, November.]

44. Bubulcus coromandus (194).

[N. Bohol, ♀, October.]

45. Herodias garzetta (195).

[N. Bohol, ♂, October.]

46. Dendrocygna vagans (203).

[N. Bohol, ♂ ♀, October and November.]

47. Sterna bergii.

Sterna bergii, Licht. Verz. d. Doubl. Berl. Mus. p. 80.
[N. Bohol, ♂ ♀, November.]

Letter on the Genus Artamus, *from the* Marquis of Tweeddale, F.R.S., &c., *to the* Editors *of* 'The Ibis' (July 1878).

Ibis, 1878, p. 383.

Sirs,—In a note on the genus *Artamus*, recently published in Rowley's 'Ornithological Miscellany' (part xiv. p. 179) I observe that Mr. Sharpe has rejected the Linnean specific title *leucorhynchus* (founded on Brisson's *Pie-grièche de Manille*), as well as Scopoli's title of *philippinus*, and Gmelin's *dominicanus* (founded on Sonnerat's *Pie-grièche dominiquaine des Philippines*), for the Philippine Swallow-Shrike, and adopted Valenciennes's more recent title, *leucogaster*, bestowed on a bird from Timor, although he tells us (p. 179) that he considers the titles *leucorhynchus* and *leucogaster* to be synonymous. Thus a title which has been current with all writers for over a hundred years is upset. Mr. Sharpe remarks "so long as there is a doubt about the Brissonian bird from the Philippines, I think the name ought to be discarded, though Lord Tweeddale says that 'he has no doubt that from it Brisson and Sonnerat took their descriptions.'

Here I can only say 'not proven!'" In my humble opinion it is "proven" by overwhelming evidence that Brisson did describe the Philippine species. Let us sift the evidence—first as to the *patria* of the type, secondly as to whether the description is sufficient to show the identity of the type.

Ibis, 1878, p. 384. Brisson (undoubtedly a most accurate author) distinctly states that the species to which his type belonged "is found in the neighbourhood of Manilla, capital of the island of Luzon, whence it was sent to M. l'Abbé Aubry, who has preserved it in his cabinet." "The inhabitants of Manilla call it Langni-Langnaien." Brisson called it *Lanius manillensis.*

Now as to his description of the specimen, which we know he had before him; for two asterisks precede the title. He says that "the head, throat, neck, scapulars, wing-feathers, and those of the tail are blackish" ("noirâtres" in the French, "*nigricantes*" in the Latin), that is, blackish or swarthy, but not jet-black, nor even black. Mr. Sharpe says that the title "*leucorhynchus*" cannot be retained for the Philippine bird, as its colours are stated to be "black and white." They are so stated to be by Sonnerat describing other species, not so, as I have shown, by Brisson. Mr. Sharpe goes on to say that the question is somewhat complicated by the fact that there are certain black-and-white *Artami*, such as *A. melaleucus* and *A. maximus*, but is of opinion that "it is highly improbable that either of these species formed the subject of Brisson's or Sonnerat's descriptions." It is not necessary to prove to what species Sonnerat's type belonged; but it is clear that neither of the species above named could have been before Brisson; for the first is from New Caledonia, and the other from New Guinea, and Brisson describes the colour as being *blackish*, not black. The colouring of many examples of the Philippine species (and there is only one species known to inhabit the Philippines) is blackish. "Noirâtre" or *nigricans* are terms which fairly convey the general tone of the dark colour of the phase of plumage exhibited by the Philippine bird; for, as I have shown elsewhere (P. Z. S. 1877, p. 544*) Philippine individuals occur wearing a dark smoky-brown plumage. We have thus the fact that Brisson circumstantially stated the origin of his type specimen, and that the description of it given by him is strictly applicable to at least one of the styles of colouring which the Philippine bird, as known to us, very frequently assumes. It may also be added that *A. leucorhynchus* is one of the commonest and most widely spread birds in the Philippines. Mr. Everett writes that you see it everywhere. And although it is unnecessary to resort to probabilities, these are enormously on the side of Brisson's specimens having come from Manilla.

Ibis, 1878, p. 385. Mr. Sharpe makes no endeavour to show what Brisson's bird may have been. About the genus there is no doubt, and yet it is the only species of the genus described by Brisson. There were only two species possible for him to have described. One, *A. fuscus*, is out of the question; the other is this Philippine species, with its wide range over the whole Malayan archipelago, Celebes, the Moluccas, parts of New Guinea with several of its islands, and parts of Australia. If a "black and white" species like *A. melaleucus* existed in the Philippines, as Drs. Hartlaub and Finsch at one time thought (P. Z. S. 1868, pp. 116, 117), it could not be Brisson's bird; for he described his species as being blackish. But Mr. Sharpe also admits that the archipelago is inhabited by only one species.

It is not my object to revise critically this monograph of the *Artami*. But when Mr. Sharpe says, "what the bird from the Pelew Islands is, cannot be determined without a specimen," and when we find this bird altogether omitted from his list of species composing the genus, it seems desirable to note that it has been described by Dr. Finsch (Journ. Mus. Godeffroy, Hft. xiii. p. 41) as a distinct species, under the title of *A. pelewensis*, and that, quite lately, Dr. Finsch (P. Z. S. 1877, p. 739) has referred his readers to that account for the differences that distinguish it from *A. melaleucus.* It may be added to Mr. Sharpe's notes (*t. c.*) that the Celebesian form of *A. leucorhynchus* has been entitled *A. celebensis* by the late Dr. Brüggemann. A species from the "Inseln des stillen Oceans" has been described by the same author as new, under the title of *A. brevipes*, which, on Dr. Brüggemann's authority, I may state, is nothing but *A. fuscus.* It may be added that the same author, in the belief that *A. insignis* was the true *A. monachus*, has given the latter species the title of *A. spectabilis* (Ann. N. H. ser. 5, i. p. 349).

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* [*Anteà*, p. 468.—Ed.]

Yours obediently,
Yester, 24th May, 1878. TWEEDDALE.

Contributions to the Ornithology of the Philippines.—No. XI. *On the Collection made by Mr. A. H. Everett at Zamboanga, in the Island of Mindanao.* By ARTHUR, Marquis of TWEEDDALE, F.R.S., President of the Society. [From the 'Proceedings of the Zoological Society of London,' read November 19, 1878*, Plates LVII.–LIX. *in orig.*]

P.Z.S. 1878, p. 936.

THE Spanish settlement of Zamboanga, situated at the southern extremity of the long south-western limb of the large Philippine island of Mindanao, is classical ground to the ornithologist. More than a century ago Sonnerat collected birds there; and in the year 1839 D'Urville's second Expedition remained a couple of months at Zamboanga. Yet only 19 species in all were recorded from Mindanao when in 1875 I published my List of Philippine Birds. Since that date Dr. Steere and the naturalists of the 'Challenger' Expedition have collected in the vicinity of Zamboanga, and added 40 species, thereby increasing the total of known species to 59.

Mr. Everett arrived at Zamboanga last March, and remained through April and part of May. During his stay he obtained examples of 98 species of birds. Mr. Everett writes that these were all procured "within a radius of ten miles of Zamboanga, chiefly in the hilly country some five miles distant at the back of the town." Of these 98 species only 33 had been previously known to inhabit this part of Mindanao; so that 65 species have been added by Mr. Everett, of which 11 are new to the Philippines, the following 6 being also new to science—

Pseudoptynx gurneyi,
Ninox spilocephalus,
Scops everetti,
Chætura picina,
Lyncornis mindanensis,
Volvocivora mindanensis,—

the remaining 5 having been previously unknown in the Philippines—

Accipiter stevensoni,
Ninox lugubris,
Coccystes coromandus,
Cacomantis sepulchralis,
Ptilopus melanocephalus.

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* [Published April 1, 1879.—ED.]

Examples of 6 species previously said to have a Philippine habitat Mr. Everett found at Zamboanga, thus reducing the number of uncertain Philippine species to 29.

Twenty species authentically recorded from Zamboanga and its vicinity are not contained in Mr. Everett's collection; so that the now known total of Zamboanga species identified from specimens amounts to 118.

P.Z.S.1878, p. 937. Mr. Everett writes:—"I enclose a note of the species observed by me here, which I think were not represented by skins in my collection. I have only included in these lists those birds the names of which I am absolutely certain I can give with accuracy."

Cacatua hæmaturopygia. [New to Zamboanga.]
Haliastur intermedius. [Already recorded.]
Merops bicolor. [Already recorded.]
Entomobia gularis. [Already recorded.]
Sauropatis chloris. [Already recorded.]
Artamus leucorhynchus. [Already recorded.]
Anthus, sp.? [?]
Carpophaga, sp.? [Probably *Ptilocolpa griseipectus*, and new to Zamboanga.]
Turtur dussumieri. [New to Zamboanga.]
Charadrius fulvus. Throat and belly jet-black. [Already recorded.]
Tringoides hypoleucus. [Already recorded.]

Sterna, sp. Bill chrome; crown of head black; wing delicate brownish-grey; underparts snowy white. Rather large. [Probably *Sterna bergii*, and already recorded.]

Three of the above species (omitting the *Anthus* as undeterminable) not having previously been recorded from Zamboanga, when added to the number of species represented by specimens, raise the total number of birds known from this part of Mindanao to 121.

1. Cacatua hæmaturopygia (1).

[Zamboanga.]
I include this species on Mr. Everett's authority.

2. Prioniturus discurus (2).

[Zamboanga, ♂ ♀, April.]

3. Tanygnathus luzonensis (3).

[Zamboanga, ♀, May.]

4. Cyclopsitta lunulata (4).

[Zamboanga, ♂ ♀, March, April, and May.]
Examples with lunated collars are marked female by Mr. Everett, those with blue collars as being males.

5. Loriculus hartlaubi (7).

[Zamboanga, ♂ ♀, April and May.]

6. Hypotriorchis severus (9).

[Zamboanga, ♂, April: iris dark brown; bill black; cere and orbital skin greenish yellow; legs bright yellow; claws black.]

In the plumage described by Mr. Sharpe (Cat. Accipitres, p. 397) as belonging to the young bird.

7. Microhierax erythrogenys (10).

[Zamboanga, ♂ ♀, April.]

8. Accipiter stevensoni.* (Plate LVII. *in orig.*)

P.Z.S. 1878, p. 938.

Accipiter stevensoni, Gurney, Ibis, 1863, p. 447, t. xi.

[Zamboanga. *a.* ♀, April: iris golden; bill black; legs greenish ochre. *b.* ♀, April: iris golden; orbital skin greenish yellow; bill leaden, apex and cere blackish; legs greenish yellow, but pale brown on the toes; claws dark brown. *c.* ♂, pullus, April: iris yellow; bill black; legs light green; sole of foot yellow; claws black. *d.* (sex?), pullus, April: iris yellow; cere greenish: beak and claws black; legs light greenish; sole of foot yellow.]

Dimensions:—

	Wing. in.	Tail. in.	Tarsus. in.	Middle toe. in.
a. ♀	7·50	5·75	1·87	1·16
b. ♀	6·75	5·75	1·75	1·25
c. ♂ juv. (♀?)	5·75	4·00	1·81	1·25
d. ♂ juv.	5·12	4·00	1·62	1·06

Example *a* is slaty brown above, darkest on the head. Rectrices pale greyish slate-colour, with five dark-brown bands on middle pair. The under surface is white; the pectoral, abdominal, and flank-plumes being traversed by two, three, or more pale brown bands. The pure white throat has a dark brown and extremely narrow median line formed by the white feathers having a very fine dark edging to the shafts. The quills underneath are regularly banded with white and brown, above brown banded with dark brown. The innermost tertiaries are at most pure white with a pale brown margin. Axillaries pure white with a series of narrow brown cross bars.

Example *b* (which is figured in the accompanying plate) has the breast and abdomen uniform pure bright rufous. When the feathers are discomposed they appear white banded with bright rufous. Vent and under tail-coverts are pure white. Thigh-coverts white, with faint pale rufous cross bands. Middle of throat white, with terminal pale earthy marks. Sides of head dingy pale rufous-brown. Upper plumage brown, mixed with rufous in some of the feathers. Middle pair of rectrices with six transverse brown bands. Quills barred as in example *a*, pale rufous occupying the interspaces between the brown bands to a great extent. Axillaries white, banded with pale rufous.

Examples *c* and *d* are of nestlings in rufous dress. Underneath creamy-fulvous, with broad ruddy-brown stripes. A central gular stripe of brown. Middle pair of rectrices with three brown bands. Upper surface of body and head dark brown, with rusty margins and bases to the feathers. Thigh-coverts spotted with light ruddy brown.

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* [*Vide* footnote to this species in the revised list of Philippine birds in the Appendix.—Ed.]

Mr. Gurney observes on these specimens as follows:—The hawk "marked *a* on the ticket is a female of *Accipiter stevensoni* in the ordinary adult dress; that marked *b* I believe to be the same; but I have never before seen a *female* with so rufous a breast, though it much resembles the figure of the male type specimen (now somewhat faded) in the 'Ibis' (*l. s. c.*). The two nestlings may be either *A. stevensoni* or *A. virgatus*. We have a very similar one from Java; but as both species are found there, I am not sure to which it belongs, but probably to *A. virgatus*, as I suspect that *A. stevensoni* is only a winter visitor to Java. Judging from the size of the tarsus and foot, I think the larger nestling, marked *c*, is a female though marked male, and that the smaller, marked *d*, is a male."

P Z.S.1878, p. 939.

Having expressed to Mr. Gurney some doubts about the correctness of identifying example *b* with the female of *A. stevensoni*, that gentleman kindly favoured me with the following remarks:—

"Your rufous-breasted hawk from the Philippines, which I marked *b*, is certainly nearer to *A. stevensoni* than to any other species that I am acquainted with; but since returning it to you I have felt some doubt as to whether it will not prove to belong to a distinct and undescribed species.

"Your bird differs in having the wing shorter than any of our females, and larger than any of our males. Our three males have but four transverse bars on the tail. Of our four females three have five bars, and the fourth (an immature bird from Java) four, like the males, whereas your specimen *b* has six, as mentioned in your letter.

"None of our females have any rufous on the breast; and in all our males it is hardly more than a tinge of buff. Our type specimen (a male, figured in the 'Ibis' for 1863, pl. 11) is perhaps somewhat faded; but our Curator is confident that it was never so rufous as is represented in the 'Ibis' plate; and in this I believe he is right.

"Your bird is more like the male of *A. stevensoni* than it is to the female; but as your collector has marked it ♀, it probably is so.

"Specimens of *A. stevensoni* are scarce, and we hardly know the limits of variation to which it is liable; and on this account I should be glad if additional specimens like your skin *b* could be obtained, before venturing to publish it as a species distinct from *A. stevensoni*; but at the same time, if it should ultimately prove distinct, it would by no means surprise me.

"I ought to add that as *A. stevensoni* has not yet been met with when paired, we have no positive proof that the bird which I suppose to be its female (the type being a male) is so, though I do not myself entertain any doubt of such being the case."

9. SPILORNIS HOLOSPILUS (16).

[Zamboanga, ♂ ♀, April and May.]

10. ELANUS HYPOLEUCUS (18).

[Zamboanga, ♂ juv., May: iris light yellow-brown; bill black; cere greenish yellow; feet pale chrome; claws black.]

11. Ninox spilocephala, sp. n.

[Zamboanga, ♂, March: iris golden; bill greenish leaden; feet pale yellow. ♀, April: iris golden; bill greenish lead, tinged yellow on culmen and tip; feet wax-yellow. ♀, April: iris light greenish yellow.]

Were it not that the large series of examples sent by Mr. Everett (six males and thirteen females) all agree in having spotted heads, I should not have ventured to separate the Zamboanga species from *N. philippinensis* of Luzon. Every variety of markings and colorations is exhibited in this series, from dark brown to tawny-rufous brown above, and stripes and spots of the same colours below; but all the nineteen examples have the frontal and coronal feathers brown, spotted with rufous—in some bright rufous, in others pale tawny rufous. Some have the whole under plumage, from throat to vent dark-centred; others have the breast almost uniform rich rufous, without pale margins, and with a subterminal brown transverse narrow band. P.Z.S.1878, p. 940.

Every specimen has its sex noted on its label; and the length of the wing in the six birds marked ♂ is greater than in those marked ♀. The wing of the six males ranges in length from 6·50 to 7·0, of the thirteen females from 6·25 to 6·50. Two Luzon males have the wings 6·37 and 5·25. Mr. Sharpe (Cat. ii. p. 168) states 2 inches as the length of the tarsus of an example of *N. philippinensis* in the British Museum; none of these Zamboanga birds has the tarsus longer than 1·12.

12. Ninox lugubris.

Strix lugubris, Tickell, J. A. S. B. ii. p. 573.

[Zamboanga. *a.* ♀, March: iris golden; bill blackish; cere, culmen, and mandible greenish yellow; feet dark chrome-yellow; claws black. *b.* ♀, April: iris deep brown; bill greenish; feet chrome-yellow.]

Dimensions:—

	Wing. in.	Tarsus. in.	Culmen. in.	Tail. in.
a	8·30	1·12	0·62	4·75
b	8·14	1·12	imperfect.	4·82

Six caudal bands. First two primaries without bars. The wings of a ruddy hue. The outer webs of most of the primaries rusty-red.

The remarks Mr. Gurney has been good enough to favour me with about this Zamboanga race of *Ninox lugubris* are as follows:—"I think the outer webs of the primaries unusually rufous. We have only one similar specimen, which is from Formosa and is described in Sharpe's volume (Catalogue, ii. p. 161); and with this specimen the Zamboanga bird seems to me to agree generally. If *N. japonica* be admitted as distinct from *N. lugubris* (though I doubt whether it ought to be), the Zamboanga specimen, I think, ought to be referred to *N. japonica*."

Mr. Sharpe has suggested (*t. c.* p. 166) that the large Japanese and North-China form is migratory. The Zamboanga examples favour his hypothesis.

13. Pseudoptynx gurneyi, sp. n. (Plate LVIII. *in orig.*)

[Zamboanga, ♂, pairing, April: iris warm brown; bill greyish white; feet pale grey; claws white tipped with dark grey.]

P.Z.S. 1878, p. 941. Sides of face bright pure unmarked rufous. Lengthened stiff plumes springing from base of maxilla rufous mixed with tawny, and many with dark-brown shafts and tipped with dark brown. Space above front of eyes, uniting on forehead and extending back over the eyes, pale tawny rufous. Crown and occiput dark rufous, many of the feathers with a dark brown broad mesial stripe. Nape and sides of neck pure rufous. Lengthened ear-tufts the same, some with very narrow brown mesial linear markings near their apices. Plumes bordering the facial disk albescent tawny; some almost pure white, tipped with dark brown. Chin and upper throat pale tawny rufous. Middle of throat white. Breast and remainder of lower surface pure rufous, more dilute on lengthened tibial plumes and under tail-coverts. A few pectoral plumes, with dark-brown large terminal drops. Many abdominal plumes, with dark-brown elongated central stripes. Back rufous, minutely freckled with brown, each feather with a bold, irregular, dark-brown central stripe. Scapulars like the back, but some of the shorter and outer feathers albescent tawny on outer webs. The dark-brown central marks are so arranged that the back, together with the scapulars, appears to have three parallel dark-brown stripes running down it. Uropygium and upper tail-coverts rufous-brown, with darker shafts. Rectrices brown, minutely freckled with pale rufous, and with eight or nine narrow pale rufous cross bands. Minor and median wing-coverts brown, freckled with rufous, and each with a dark narrow central brown line. Major coverts brown on inner web, freckled with rufous on outer. Quills brown, alternately banded with freckled brown and pale rufous. Tertiaries pure rufous, with traces of dark brown along the shafts. Carpal edge white; wing-lining yellowish white; some of the under carpal coverts rufous. Thigh and tarsal coverts pale rufous and tawny white.

Mr. J. H. Gurney writes to me:—"The *Pseudoptynx* is certainly distinct from *P. philippinensis*, and, so far as I know, is undescribed. Besides its very much smaller size, it is very much more rufous below, and of a much darker rufous above; and the dark central marks of the mantle are altogether of a different character, and very much less coarse than those in *P. philippinensis*. As to the difference of size, we have two specimens of *P. philippinensis* here; and the comparison between their dimensions and those of the Zamboanga bird is as follows:—

	Wing.	Tarsus.	Middle toe.	Culmen without cere.
	in.	in.	in.	in.
"*P. philippinensis*, No. 1	15·5	2·4	1·6	1·4
" " No. 2	imperfect	2·5	1·5	1·5
"*P. gurneyi*	9·3	1·8	1·4	1·1."

The dimensions of the type in the British Museum given by Mr. Sharpe (Cat. ii. p. 43) also much exceed those of the Zamboanga bird.

P.Z.S. 1878, p. 942. I name this fine Owl after Mr. Gurney, to whom for many years I have been largely indebted for great assistance in determining the obscurer species of Rapaces.

14. Scops everetti, sp. n.

[Zamboanga, ♀, April: iris warm brown; bill pale greenish leaden, nearly white; feet whitish grey; claws dark grey. ♂, April: iris deep brown; feet whitish.]

Mr. Everett has sent three examples of a species of *Scops*, which may be described as being a large form of *Scops lempiji* as it occurs in Java. Above it has the deep rich brown colouring of the Javan species; the same broad dark-brown mark in the form of a parallelogram on the head and nape; the same pale-coloured forehead, stripe above each eye and round the nape, and the broad dark-brown stripe leading from behind the eye, and including most of the ear-tufts. In the Zamboanga species (as represented in Mr. Everett's series) there are no pale uniform tawny or fulvous scapulars. Underneath, the markings differ from those of the Javan bird by being more confused, and by the absence of regular dark-brown cross markings on the abdominal plumes. The general colouring of the under surface is of a ruddier brown.

Dimensions:—

	Wing. in.	Tarsus. in.	Tail. in.	Culmen. in.
♂	6·50	1·20	3·50	0·62
♀	6·75	1·20	3·62	0·68

Mr. Sharpe, to whom I submitted two of the specimens, has obliged me with the following observations:—"Your Owl is of the *S. lempiji* group, having that peculiar light streak on the sides of the crown, running onto the ear-tufts; but underneath it is quite aberrant, and verges more towards the Moluccan *S. leucospilus* section. At the same time I expect it will come very near *Scops umbratilis*, Swinhoe."

Mr. Gurney writes, "The Owl is new to me, and different to any that we have here."

15. Thriponax javensis (28).

[Zamboanga. ♂, March: iris yellow.]

The white at the tips of the primaries is unusually developed in the specimens from Zamboanga.

16. Chrysocolaptes lucidus (32).

Chrysocolaptes maculiceps, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 314, t. xlvi. fig. 2.

[Zamboanga, ♀, May: iris crimson.]

An example (marked a female) wears the plumage of *C. maculiceps*, as described and figured by Mr. Sharpe.

17. Yungipicus validirostris (33 *partim*).

Picus nanus, Vigors, Blyth, J. A. S. B. 1845, p. 197. P.Z.S. 1878, p. 943.

Picus validirostris, Blyth, Cat. Calc. Mus. p. 64. no. 305; J. A. S. B. 1849, p. 805.

[Zamboanga, ♂ ♀, May: iris crimson?; bill black; mandible lead-grey; feet olive.]

When writing on *Picus maculatus*, Scopoli (Tr. Z. S. ix. p. 148)*, I stated that the titles I then brought together were treated as synonyms on the assumption that the islands of Luzon,

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* [*Anteà*, p. 315.—Ed.]

Panay, and Mindanao possessed but one and the same species of *Yungipicus*. I had had no opportunity of examining an example from any one of the Philippine Islands. Since then Mr. Everett has sent me examples of a species of the genus from Luzon; and these I identified (P. Z. S. 1877, p. 689) [*anteà*, p. 515] with *P. maculatus*, rather than create a new title, while their dimensions were too small for *P. validirostris*, Blyth. The birds from Zamboanga differ specifically from the Luzon species. They are larger; the uropygium and upper tail-coverts are unspotted tawny white; and the rectrices are tawny buff banded with dark brown, and not dark brown for the most part, as in the Luzon bird, with narrow albescent bands or marks. In both, the lower throat and upper breast are spotted, and not streaked, as in *Y. fuscoalbidus* of the Sunda Islands and Malacca. Until typical examples of *P. maculatus* from Panay are compared, it cannot be affirmed whether the type of *P. maculatus* belongs to the Luzon or the Mindanao species, or whether it may not be a species distinct from either. In the meantime I adopt Blyth's title, the dimensions he gives being exactly those of the Zamboanga species:—bill to forehead 0·75; wing 3·25.

I may mention that *Y. aurantiiventris*, Salvadori, is an excellent species, quite distinct from *Y. fuscoalbidus*.

18. Harpactes ardens (34).

[Zamboanga, ♀, March: coloration of soft parts as in male.]

The coloration of the soft parts is not mentioned on the labels of the males sent.

19. Alcedo bengalensis (38).

[Zamboanga, ♀, March.]

20. Pelargopsis gigantea.

Pelargopsis gigantea, Walden, Ann. & Mag. Nat. Hist. ser. 4, xiii. p. 123. [*Anteà*, p. 253.]

[Zamboanga, ♂ ♀, March and May.]

21. Ceyx argentata.

Ceyx argentata, Tweeddale [Ann. Mag. N. H. ser. 4, xx. p. 533 (*anteà*, p. 561)], P. Z. S. 1878, p. 108. no. 7, t. vi. [*Anteà*, p. 567.]

[Zamboanga, ♂, May.]

22. Entomobia gularis (44).

[Zamboanga.]

P.Z.S.1878, p. 944.

23. Halcyon winchelli.

Halcyon winchelli, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 318, t. xlvii.

[Zamboanga, ♀, April: iris dark brown; bill black; the basal half of mandible white; feet light greyish-green.]

I have not been able to compare the Zamboanga birds with the Basilan type; but the female agrees well with Mr. Sharpe's description and plate. A second example (sex unrecorded) differs in having the whole under surface pure white.

24. CALIALCYON COROMANDA (46).

[Zamboanga, ♀, March.]

The discovery of this species by Mr. Everett at Zamboanga removes all doubts of its being an inhabitant of the Philippines.

25. ACTENOIDES HOMBRONI (48).

[Zamboanga, ♂, April: iris brown; bill orange-red; the culmen blackish; feet dirty greenish orange.]

In the perfectly adult male the crescentic pectoral markings disappear.

26. XANTHOLÆMA HÆMACEPHALA (50).

[Zamboanga, ♂, March and April.]

27. MACROPTERYX COMATUS (52).

[Zamboanga, ♂, April.]

28. CHÆTURA PICINA, sp. n. (Plate LIX. *in orig.*)

[Zamboanga, ♀, April.]

Black with a blue gloss, greenish in some lights. Chin, throat, and larger under wing-coverts pure white. Wing 6·37; tail 1·25.

29. LYNCORNIS MINDANENSIS, sp. n.

[Zamboanga, ♂, April: iris warm brown; feet purplish brown.]

Typical *L. macrotis* (ex Luzon) has the crown, forehead, ear-tufts, and nape rufous brown, of almost the same shade as in *L. temmincki*. The three examples of the species of *Lyncornis* which inhabits the vicinity of Zamboanga, sent by Mr. Everett, differ from *L. macrotis* by having the crown, nape, forehead, and ear-tufts dark greyish-brown, and not rufous, by all the browns of the plumage being much darker, and by the wing being shorter. Wing 9·90.

30. CAPRIMULGUS MANILLENSIS (55).

[Zamboanga, ♀, April.]

Compared by Mr. Sharpe with the type.

31. BATRACHOSTOMUS SEPTIMUS.

Batrachostomus septimus, Tweeddale, P. Z. S. 1877, p. 542. no. 13. [*Anteà*, p. 466.]

[Zamboanga, ♂, April: iris orange-yellow; bill light horn-brown; feet pale ochreous yellow; nails grey. Interior of gape, ♂ ♀, lemon-yellow.] P.Z.S.1878, p. 945.

Two examples of the adult male and one of an adult female are sent by Mr. Everett. The white nuchal band of the female is not so conspicuous as in the type, nor are the white markings of the throat-band and pectoral plumes. The general hue of the male plumage agrees with that of the female; but in the males the elongated scapulars have the outer webs pure white, with a black subterminal spot on the inner web. Four examples of this species are now known, two of males and two of females; and all four are in the rufous phase. Mr. Everett, in his remarks about one of the males, is very explicit; he writes:—"I have one *Bratrachostomus*, a good skin; it is in rufous plumage, and is ♂. I took especial care in the sexing; and luckily the parts had not been touched by shot. Judging from the size of the testes, I think the bird is rather immature."

32. CACOMANTIS SEPULCHRALIS?

Cuculus sepulchralis, S. Müller, Land- en Volkenk. p. 177.

[Zamboanga, ♂ ♀, April.]

Mr. Everett obtained five examples of a Plaintive Cuckoo, two of which are in adult plumage, and so closely resemble the Javan *C. sepulchralis*, that I do not venture to separate them. The dimensions of the wings and tail are slightly less, while the chin and throat are of the same rufous as the breast, and not grey. S. Müller described (*l. c.*) the chin of the Javan and Sumatran type as being grey; and so it is in my Javan specimens; but it is not certain that in Javan birds this grey does not change into rufous. An example obtained by Mr. Everett at San Mateo, Luzon (*C. merulinus*, *a*, P. Z. S. 1877, p. 691. n. 19) [*anteà*, p. 516], belongs, without doubt, to *C. sepulchralis*, and has the chin and upper throat grey, the others being examples of true *C. merulinus*. This last species can hardly be kept separate from the grey-breasted species of Continental Asia, *C. threnodes*, &c.

33. SURNICULUS VELUTINUS.

Surniculus velutinus, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 320.

[Zamboanga, ♀, April.]

34. CHALCOCOCCYX MALAYANUS.

Cuculus malayanus, Raffles, Tr. L. S. xiii. p. 286, "Malay Peninsula" (March 1821).

? *Cuculus basalis*, Horsfield, Tr. L. S. xiii. p. 179, "Java" (April 1820).

[Zamboanga. *a*. ♂, April: iris burnt-sienna colour; orbital ring fine vermilion; bill blackish; feet very dark lead-grey. *b*. April: iris light yellowish brown; bill black; legs lead-grey; nails black.]

Mr. Everett sends three Golden Cuckoos, which, although somewhat smaller than typical
P.Z.S.1878, p. 946. examples, differ in no other respect. Wing 3·62. I adopt the more recent specific title of *malayanus*, as it has not as yet been absolutely demonstrated that the Malayan-Peninsula bird is the same as the Javan. The only Javan example I have seen is pure white underneath, without any transverse bands. Above, the whole back is very dark green without any coppery gloss, the

head and nape coppery greenish-brown. This individual is fairly represented on plate 102. f. 2, of the 'Planches Coloriées,' under the title of *Cuculus chalcites*, Illiger, exact habitat unknown. It may be only a phase of plumage; but Horsfield and Moore (Cat. Mus. E.I. C. ii. pp. 706, 707) keep the Malaccan species distinct from the Javan.

35. HIEROCOCCYX PECTORALIS (60).

[Zamboanga, ♂, April: iris pale yellow; orbital skin bright chrome-yellow; bill black; mandible and base of maxilla greenish; feet bright wax-yellow; claws horn-yellow.]

A single example, which agrees in every detail with the description given by Dr. Cabanis. It may also belong, as suggested by me (*l. c.*), to *Cuculus hyperythrus*, Gould; but it differs from the figure of that species in wanting the black chin, in not being so intensely rufous underneath, in the rufous colouring not extending below the breast, and in the upper plumage not being of so dark a shade of grey. It also has four, distinct, transverse, narrow, dark caudal bands, and not merely two as described by Mr. Gould.

36. COCCYSTES COROMANDUS.

Cuculus coromandus, Linn. S. N. i. p. 171. no. 20.

[Zamboanga, ♀, March: iris brown; bill jet-black; feet bluish grey; interior of gape salmon-red.]

New to the Philippines, and a most unexpected addition to their fauna.

37. EUDYNAMIS MINDANENSIS (61).

[Zamboanga, ♀, March: iris bright crimson; bill and legs greenish plumbeous. *b*, ♂, March.]

These are typical examples of the species, and do not differ from North-Mindanao examples. They are somewhat smaller than birds from Guimaras and Zebu. Maximum length of wing 7·50. In the female the spots and bands appear in this species to be always rufous.

38. CENTROCOCCYX VIRIDIS (64).

[Zamboanga, March.]

39. PYRRHOCENTOR MELANOPS (65).

[Zamboanga, ♂ ♀, March.]

Sexes alike.

40. BUCEROS MINDANENSIS.

Buceros mindanensis, Tweeddale, P. Z. S. 1877, p. 543. [*Anteà*, p. 467.]

[Zamboanga, ♂ ♀ ♀ juv., March.]

41. PENELOPIDES AFFINIS.

P.Z.S.1878, p. 947.

Penelopides affinis, Tweeddale, P. Z. S. 1877, p. 824. n. 29. f. 1.

[Zamboanga, ♂ ♀, March.]

A new outer rectrix has the central band pure white, the central bands on all the other rectrices being bright rufous.

42. Lanius nasutus (70).

[Zamboanga, ♂ ♀, April.]

Mr. Everett sends a nestling killed in April.

43. Lanius lucionensis (72).

[Zamboanga, ♂, April.]

44. Graucalus striatus (73).

[Zamboanga, ♂, April: iris pale yellow.]

Two examples marked have uniform plumbeous breasts and banded underparts and uropygium. One marked ♀ is banded from the chin downwards as well as on the uropygium.

45. Volvocivora mindanensis, sp. n.

[Zamboanga. *a.* ♂, April: iris dark brown; bill and legs black. *b.* ♀, April: iris dark brown. *c.* ♀, April: iris dark chocolate-brown.]

Adult male (*a*). Chin, cheeks, sides of head, space before the eyes, a broad supercilium, ear-coverts, forehead, throat, and upper breast jet-black. Remainder of breast, crown, and whole under surface of body dark leaden-grey, paler near the vent and on the under tail-coverts. Wing-coverts, nape, and axillaries a slightly lighter shade of leaden-grey, palest on the uropygium and upper tail-coverts, which are slightly mixed with white. Quills above black, with faint grey margins. Sixth and remaining primaries tipped with greyish white. Secondaries and tertiaries leaden-grey on their outer webs. Part of inner webs of quills, seen from underneath, pale grey. This colour commences at the base of the first primary, occupying but a small part of it, but is more extended on each succeeding quill, and reaches to the extremities of the inner quills. Rectrices jet-black; outer pair with a large grey terminal mark, the same colour being slightly indicated on the next pair. Carpal edge and wing-lining almost black.

Adult female (*b*). The same as the male, but the grey colour of the whole plumage of a paler shade, the uropygium more albescent, and no black about the head, throat, and breast. Carpal edge and axillaries pale grey.

Young female (*c*). Like the adult, but the grey colour not so pure. The chin, central part of the throat, a few scattered feathers on the breast and flanks, the wing-lining, and axillaries finely banded with white. Upper tail-coverts nearly pure white. Outer margins of some of the secondaries and carpal edge inclining to white.

P.Z.S.1878, p. 948.

Dimensions:—

	Wing. in.	Tail. in.	Tarsus. in.	Culmen. in.
♂ ad.	4·62	4·0	0·88	0·88
♀ ad.	4·50	4·0	0·88	0·88
♀ juv. . . .	4·48	3·88	0·88	0·87

A representative form of *V. morio* ex Celebes, but altogether of a darker shade of grey, with a black forehead, and with the inner margins of the quills grey, and not pure white.

46. LALAGE DOMINICA (76).

[Zamboanga, ♀, April.]

47. DICRURUS STRIATUS.

Dicrurus striatus, Tweeddale, P. Z. S. 1877, p. 545. no. 20. [*Anteà*, p. 469.]

[Zamboanga, ♀, March: iris crimson.]

48. LEUCOCERCA NIGRITORQUIS (83).

[Zamboanga, ♀, April.]

49. CYORNIS PHILIPPINENSIS (84 *partim*).

Cyornis philippinensis, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 325.

[Zamboanga, ♀, March.]

50. HYPOTHYMIS AZUREA (85).

[Zamboanga, ♀ , May: maxilla black, mandible light blue; legs dark grey slate; interior of gape yellow.]

51. BRODERIPUS ACRORHYNCHUS (90).

[Zamboanga.]

52. ERYTHROPITTA ERYTHROGASTRA (94).

[Zamboanga, ♂ ♀, March, April, May.]

These examples all belong to *E. erythrogastra*, and not to the Balabac race named *B. propinquus* by Mr. Sharpe (Tr. L. S. ser. 2, Zool. i. p. 330). The young Dumalon (Mindanao) example obtained by Dr. Steere, and doubtfully identified with *B. propinquus* by Mr. Sharpe (*l. c.*), in all probability belongs to *E. erythrogastra.*

An immature bird, killed in April near Zamboanga, is dirty rufous-brown above, with dashes of green; rectrices blue; wing-feathers without a trace of blue; under surface dirty white, feathers margined with pale rufous-brown; some scarlet feathers on the breast; vent and under tail-coverts washed with brownish red. The females differ in the scarlet colouring of the abdominal region not being so intense and vivid, and in the throat not being so dark brown, almost black. The blue colouring of the breast is not exhibited until complete maturity, that part remaining green. In fully mature birds of both sexes the green pectoral band is almost entirely replaced by blue.

53. MELANOPITTA SORDIDA (95).

P.Z.S. 1878, p. 949.

[Zamboanga, ♂, March: iris chocolate; bill black; legs brownish grey. ♂ ♀, March, April, and May.]

This species has the black central abdominal patch much more largely developed than in *M. muelleri* ex Borneo. In no other respect does it appear to differ. The extent of pure white on the quills is dependent on sex. Of fourteen individuals with the sex noted by Mr. Everett, nine are males and five are females. The primaries of the male have a much greater white surface than is found in the primaries of the female. The sixth, seventh, and eighth primaries are scarcely tipped with black; and the first five primaries have double the amount of white that exists on the primaries of the female. On examining Luzon and Negros examples with the sexes noted by Dr. B. Meyer, the same character differentiates the sexes. In Bornean individuals of *M. muelleri* (sex determined by Mr. Everett) the sexes can be discriminated by the amount of white on the remiges. In *M. cucullata* some of my examples exhibit a maximum of white on the quills and the others a minimum; but as none have had their sexes determined by dissection, I am unable to affirm that in that species the same law holds good. In two Zamboanga skins the green of the breast and flanks is assuming the blue tint so prominent in the large representative form *M. steerii.*

54. MELANOPITTA STEERII.

Brachyurus steerii, Sharpe, 'Nature,' August 1876, Tr. L. S. ser. 2, Zool. i. p. 329, t. xlix.

[Zamboanga, ♂, March and April.]

55. MACRONUS STRIATICEPS.

Macronus striaticeps, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 331.

[Zamboanga, ♂, March: iris white; bill black; legs purplish grey.]

56. IXUS GOIAVIER (99).

[Zamboanga, ♂ ♀, March.]

57. POLIOLOPHUS UROSTICTUS (101).

[Zamboanga, ♂, April: orbital ring light yellow.]

58. HYPSIPETES RUFIGULARIS.

Hypsipetes rufigularis, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 335.

[Zamboanga, ♀, April: iris crimson; bill blackish brown; legs brown.]

59. MONTICOLA SOLITARIUS (103).

[Zamboanga, ♀, April.]

60. COPSYCHUS MINDANENSIS (106).

[Zamboanga, ♂, March.]

P.Z.S. 1878, p. 950.

61. PHYLLOSCOPUS BOREALIS.

Phyllopneuste borealis, Blasius, Naumannia, 1858, p. 313.

[Zamboanga, ♂ ♀, April.]

62. Orthotomus cinereiceps?

Orthotomus cinereiceps, Sharpe, Ibis, 1877, p. 113, t. ii. f. 2, "Basilan."

[Zamboanga, ♂, March: iris clay-orange; ♀, April.]

Mr. Sharpe's title is here adopted with doubt for this Zamboanga species of Tailor-bird, because it does not quite agree with the description and figure, and I have not been able to compare it with the type (now in America).

In the example marked as being of a male, the cheeks, chin, and entire throat are jet-black. In that of the female the chin and upper part of the throat are white, the middle of the breast, the abdomen, and vent are silky white, whereas in the male these parts are bright olive-green. The rectrices of the male are devoid of a subterminal bar; but in those of the female brown subterminal bars are conspicuous. It is not improbable that the male example with entire throat black is *O. cinereiceps* in full breeding-dress.

63. Orthotomus frontalis.

Orthotomus frontalis, Sharpe, Ibis, 1877, p. 112, t. ii. f. 1, "Zamboanga."

[Zamboanga, ♂ ♀, March and April.]

The examples noted as belonging to males have no subterminal bar on the rectrices. Those marked as being of females have the subterminal bar well pronounced.

64. Budytes viridis (114).

[Zamboanga, ♂, April.]

65. Zosterops everetti.

Zosterops everetti, Tweeddale, P. Z. S. 1877, p. 762. no. 42, "Zebu." [*Anteà*, p. 536.]

[Zamboanga, ♂ ♀, April.]

66. Dicæum cinereigulare.

Dicæum cinereigulare, Tweeddale, P. Z. S. 1877, p. 829. no. 50, "N. Mindanao." [*Anteà*, p. 555.]

[Zamboanga, ♀, April: iris dark brown; bill black; legs very dark grey, nearly black.]

The female differs from the male in wanting the orange-red interscapular patch, in the abdomen, vent, and under tail-coverts being pure yellow, and in the upper plumage being deeply tinged with olive-green.

67. Dicæum rubriventre (120 *partim*).

Pipra papuensis, Gm. S. N. i. p. 1004.

[Zamboanga, ♀, April: iris dark blood-red; bill and legs black.]

68. Nectarophila juliæ.

P. Z. S. 1878, p. 951.

Nectarophila juliæ, Tweeddale, P. Z. S. 1877, p. 547. no. 32, "Malanipa." [*Anteà*, p. 471.]

Cinnyris juliæ (Tweeddale), Shelley, *Cinnyridæ*, pts. vii. & viii.

[Zamboanga, ♂ ♀, April: iris brown; bill and feet black.]

In some examples of the male the breast is suffused with orange-red; in others little or no red is perceptible.

69. CYRTOSTOMUS JUGULARIS (123).

[Zamboanga, ♂ ♀, March and April.]

70. ANTHOTHREPTUS CHLOROGASTER.

Anthreptes chlorigaster, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 342; Shelley, *Cinnyridæ*, pt. vi. pt. vii. t.

[Zamboanga, ♀, April: iris indian-red; bill light umber-brown; legs greenish leaden.]

71. RHABDORNIS MYSTACALIS (124).

[Zamboanga, ♂, April.]

A single example, which differs from the Luzon species in its much shorter bill. Culmen barely 0·62, in the Luzon bird fully 0·75. The wing is also shorter; and the colouring of the wings and back is warm brown, and not greyish olive-brown.

72. CORVUS PHILIPPINUS (125).

[Zamboanga, ♂, March.]

73. CALORNIS PANAYENSIS (128).

[Zamboanga, ♂, March.]

74. SARCOPS CALVUS (129).

[Zamboanga, ♀, March.]

75. MUNIA JAGORI (132).

[Zamboanga, ♂ ♀, March.]

76. OSMOTRERON VERNANS (135).

[Zamboanga, ♂ ♀, March, April, May.]

77. PTILOPUS MELANOCEPHALUS.

Columba melanocephala, Forster, Zoologia Indica, p. 16. no. 7. t. viii., ex Java (1781).

[Zamboanga. *a.* ♂, March: iris, orbital skin, and bill yellow, with more or less of a green tinge; feet carmine, nails dark grey. *b.* ♂, April: iris yellow; bill yellow-green.]

Hardly separable from the Javan species. Wing 4·50. The tint of the throat-patch resembles that of *P. xanthorrhous*; but the abdomen and crissum are yellow, and not orange. New to the Philippines.

78. Ramphiculus occipitalis (138).

P.Z.S. 1878, p. 952.

[Zamboanga, ♀ (juv.), March: iris dark brown; bill light brown, the basal half dull red; feet coral-red.]

Sexes alike.

79. Phabotreron brevirostris.

Phabotreron brevirostris, Tweeddale, P. Z. S. 1877, p. 549. no. 38. [*Anteà*, p. 473.]

[Zamboanga, ♂ ♀, March and April.]

The pale, and not rufous, chin and throat distinguishes this species from *P. leucotis*.

80. Carpophaga ænea (141).

[Zamboanga, ♀, March.]

81. Ptilocolpa griseipectus (142)?

Mr. Everett remarks *in epist.*:—"The *Carpophaga* of the Zamboanga list is a bird markedly smaller than *C. ænea*; and those parts which in the latter are coloured fine bronzy green, are in the smaller species dark iron-grey." The above-given description, so far as it goes, agrees with *Ptilocolpa griseipectus*, a rare species in museums, and the exact habitat of which in the Philippines remains to this day (unless this identification is correct) undetermined.

82. Myristicivora bicolor (143).

[Zamboanga, ♀, May.]

83. Hemiphaga poliocephala (144).

[Zamboanga, ♀ (not quite adult): bill black; orbital skin crimson.]

Sexes alike. The margin of the inner web of the first primary is scooped out, and that of the second a little less so.

84. Macropygia eurycerca.

Macropygia eurycerca, Tweeddale, P. Z. S. 1878, p. 288. no. 49. [*Anteà*, p. 594.]

[Zamboanga, ♂ ♀, March and April.]

Considerably smaller than the Negros type, but otherwise undistinguishable. Wing 6·75, as against 7·50; tail 7·00, against 8·00.

85. Turtur dussumieri (147).

[Zamboanga.]

Included on the authority of Mr. Everett.

86. Phlogœnas crinigera.

Phlogœnas crinigera (Pucheran), Tweeddale, P. Z. S. 1877, p. 833. no. 66. [*Anteà*, p. 559.]

[Zamboanga, ♂ ♀, March and April.]

Sexes alike. An example marked "♂ juv." by Mr. Everett has the claret-coloured pectoral plastron only indicated by a few red plumes, and the terminal margin of the major coverts fulvous instead of pale grey, the remainder of the plumage being marked and coloured as in the adult. P.Z.S.1878, p. 953.

87. CHALCOPHAPS INDICA (150).

[Zamboanga, ♂ ♀, March.]

88. GALLUS BANKIVA (153).

[Zamboanga, ♂ ♀, March.]

89. MEGAPODIUS DILLWYNI.

Megapodius dillwyni, Tweeddale, P. Z. S. 1877, p. 766. [*Anteà*, p. 539.]

[Zamboanga, ♀, March: iris burnt sienna-brown; bill horn-brown; orbital skin dirty crimson; legs reddish-brown; tarsi * dark brown. ♂, March: orbital skin dark purplish brown.]

90. GALLINULA CHLOROPUS (169).

[Zamboanga, ♀, May: iris light warm brown; bill greenish yellow; frontal plate orange-red; legs grass-green.]

91. GALLICREX CINEREA (170).

[Zamboanga, ♂, March and April.]

92. ERYTHRA PHŒNICURA (171).

[Zamboanga, ♀, March.]

93. ORTYGOMETRA CINEREA (172).

[Zamboanga, ♂, April.]

94. PORZANA FUSCA (174).

[Zamboanga, ♂, April: iris brick-red; legs dull wax-red.]

95. GALLINAGO MEGALA (188).

[Zamboanga, ♀, March.]

96. RHYNCHÆA CAPENSIS (189).

[Zamboanga, ♂, May.]

97. ARDETTA CINNAMOMEA (192).

[Zamboanga, ♀, March.]

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* So written on label; perhaps a slip of the pen for the word "toes" or "claws."

98. Herodias intermedia (196).

[Zamboanga, ♂, March.]

99. Melanopelargus episcopus.

Ardea episcopus, Bodd. Tabl. d. Pl. En. p. 54.

[Zamboanga, ♀, March.]
In full dress.

100. Dendrocygna vagans (203). P.Z.S. 1878, p. 954.

[Zamboanga, ♀, April.]

101. Dysporus sula (214).

[Zamboanga, ♀, May: iris white; bill dirty white; orbital and gular space pale green; feet very light greenish yellow; nails grey.]

A young female in dirty-brown plumage, darkest on breast, throat, neck, head, and back.

1879.

Contributions to the Ornithology of the Philippines.—No. XII. *On the Collection made by Mr. A. H. Everett in the Island of Basilan.* By Arthur, Marquis of Tweeddale, F.R.S., President of the Society. [From the 'Proceedings of the Zoological Society of London,' read January 14, 1879*.] P.Z.S. 1879, p. 68.

In the year 1876, the island of Basilan was for the first time visited by an ornithological collector, Dr. Steere, who, during the fortnight he resided at the Spanish settlement of Isabella, obtained examples of 23 species of birds. Mr. Everett reached the same island in the month of May of the present year, and remained there during June. Of the collection of birds he formed it is now proposed to give an account.

In all Mr. Everett obtained representatives of 56 species. Of these 12 only have already been enumerated by Mr. Sharpe; so that through Mr. Everett's exertions I am enabled to increase the number of known Basilan birds by 48. To the 56 species collected by Mr. Everett must be added the 11 obtained over and above by Dr. Steere; and the known total of Basilan birds will thus be found to be 67.

By the discovery of *Totanus calidris* in Basilan, Mr. Everett has established one certain Philippine habitat for a species hitherto but doubtfully known to inhabit the archipelago. So now only 28 species are left, the occurrence of which in the Philippines still remains somewhat uncertain.

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* [Published June 1879.—Ed.]

Mr. Everett writes, that he finds the "wet season at its height, and the rain has been incessant. The hostility of the natives renders it impossible to go beyond a radius of four or five miles from the village without a well-armed party. Hence the collection is rather meagre. Apart from these causes, however, the collection is likely to prove disappointing; for the avifauna of the island does not seem to offer any very marked features to distinguish it from that of the Zamboanga peninsula."

1. PRIONITURUS DISCURUS (2).

[Basilan, ♂ ♀, May, June.]

2. TANYGNATHUS LUCONENSIS (3).

[Basilan, ♂, May.]

3. LORICULUS HARTLAUBI (7).

[Basilan, ♂, May.]

P.Z.S.1879, p. 69. 4. SPILORNIS HOLOSPILUS (16).

[Basilan, ♀, June.]

5. ELANUS HYPOLEUCUS (18).

[Basilan, ♀, June.]
Not quite mature.

6. NINOX SPILOCEPHALA.

Ninox spilocephala, Tweeddale, P. Z. S. 1878, p. 939. [*Anteà*, p. 631.]

[Basilan, ♂ ♀, May, June.]

7. SCOPS EVERETTI.

Scops everetti, Tweeddale, P. Z. S. 1878, p. 942. [*Anteà*, p. 633.]

[Basilan, ♂, May.]

8. THRIPONAX JAVENSIS (28).

[Basilan, ♀, May: iris orange-yellow. ♀ juv., May: iris white.]

9. YUNGIPICUS VALIDIROSTRIS.

Yungipicus validirostris (Blyth), Tweeddale, P. Z. S. 1878, p. 943. [*Anteà*, p. 633.]

[Basilan, ♂, May: iris crimson.]

Basilan examples agree with those from Zamboanga. The description given by Cabanis (Mus. Hein. iv. pt. ii. p. 60), under the above title, of a Philippine member of the genus agrees best with the Luzon bird.

10. EURYSTOMUS ORIENTALIS (37).

[Basilan, ♀, May.]

11. Pelargopsis gigantea.

Pelargopsis gigantea, Walden, Ann. & Mag. Nat. Hist. ser. 4, xiii. p. 123. [*Anteà*, p. 253.]

[Basilan, ♀, May: coloration of soft parts identical with that in *P. leucocephala.*

12. Sauropatis chloris (47).

[Basilan, ♀, May.]

13. Caprimulgus manillensis (55).

[Basilan, ♂ ♀, May and June.]

14. Cacomantis merulinus (57).

[Basilan, ♂ ♀, May.]

The male is in mature plumage, the female in rufous dress.

15. Surniculus velutinus.

Surniculus velutinus, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 320.

[Basilan, sex?, May: iris dark brown; bill black; feet grey; soles ochreous.]

16. Eudynamis mindanensis (61). P.Z.S.1879 p. 70.

[Basilan, ♀, May.]

17. Pyrrhocentor melanops (65).

[Basilan, ♂, May.]

18. Buceros mindanensis.

Buceros mindanensis, Tweeddale, P. Z. S. 1877, p. 543. [*Anteà*, p. 467.]

[Basilan, ♂ ♀, May.]

19. Penelopides affinis.

Penelopides affinis, Tweeddale [Ann. & Mag. N. H. ser. 4, xx. p. 534, *anteà*, p. 562], P. Z. S. 1877, p. 824. [*Anteà*, p. 550.]

[Basilan, ♂ ♀, June.]

20. Artamus leucorhynchus (73).

[Basilan, ♂ ♀, May.]

21. Graucalus striatus (74).

[Basilan, ♀; iris pale lemon-yellow.]

22. Lalage dominica (76).

[Basilan, ♂ ♀, May.]

23. DICRURUS STRIATUS.

Dicrurus striatus, Tweeddale, P. Z. S. 1877, p. 545. no. 20. [*Anteà*, p. 469.]

[Basilan, ♂, June; ♀, May.]

24. LEUCOCERCA NIGRITORQUIS (83).

[Basilan, ♀, June.]

25. HYPOTHYMIS AZUREA (85).

[Basilan, ♂, May and June.]

26. HYPOTHYMIS SUPERCILIARIS.

Hypothymis superciliaris, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 326. no. 53.

[Basilan, ♀, June: iris dark brown; bill black; legs dark brown.]

27. SETARIA RUFICAUDA.

Setaria ruficauda, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 327.

[Basilan.]

Identified by Mr. Sharpe.

28. SARCOPHANOPS STEERII.

Eurylæmus steerii, Sharpe, Nature, August 1876, p. 297.

Sarcophanops steerii, id. Tr. L. S. ser. 2, Zool. i. p. 344. no. 115, t. liv. f. 1, 2.

[Basilan, ♀, May: iris fine bluish green.]

P.Z.S.1879, p. 71.

With reference to the colour of the iris as stated by Mr. Sharpe (*l. c.*) on Dr. Steere's authority, Mr. Everett remarks:—"Dr. Steere is in error in saying that the iris of *Sarcophanops* is like 'a clear crystal, crowded with specks of gold.' The iris is not yellow, but rich mineral green, and precisely resembles the iris of *Cymborhynchus macrorhynchus*. If the describer had said 'a clear crystal of emerald, crowded with specks of gold,' the peculiar grained appearance of the eye and its colour would have been correctly indicated."

The series sent by Mr. Everett corroborates Mr. Sharpe's statement (*l. c.*) that the females are distinguished from the males by having the breast pure white and not vinaceous. In Mr. Sharpe's plate of the species, the male bird is marked with the feminine symbol, and the female with the masculine. The Dinagat bird in no respect differs from these typical specimens.

29. BRODERIPUS ACRORHYNCHUS (90).

[Basilan, ♀, May.]

30. ORIOLUS STEERII.

Oriolus steerii, Sharpe, Cat. B. in Mus. Brit. iii. p. 213, t. x.; Tr. L. S. ser. 2, Zool. i. p. 329.

[Basilan, ♂, May: iris carmine; bill burnt sienna-brown; legs dark grey.]

The series sent by Mr. Everett enables me to compare *O. steerii* with its representative form *O. assimilis*, ex Zebu, and to confirm the absolute distinctness of the two species.

31. Erythropitta erythrogastra (94).

[Basilan, sex ?, May.]

Examples of an apparently immature female.

32. Megalurus ruficeps.

Megalurus ruficeps, Tweeddale [Ann. & Mag. N. H. ser. 4, xx. p. 95, *anteà*, p. 509], P. Z. S. 1877, p. 695. no. 41, t. lxxii. [*Anteà*, p. 520.]

[Basilan, ♂, June.]

33. Mixornis capitalis.

Mixornis capitalis, Tweeddale [Ann. & Mag. N. H. ser. 4, xx. p. 535, *anteà*, p. 563], P. Z. S. 1878, p. 110, pl. vii. f. 2. [*Anteà*, p. 569.]

[Basilan, ♂, June: iris orange; bill blackish; legs light olive-green.]

34. Irena melanochlamys.

Irena melanochlamys, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 334. no. 75.

[Basilan, ♂, June: iris pure Indian-red. ♀, May: iris pure Indian-red; bill and legs jet-black.]

A representative form of *I. cyanogastra*, from which it appears only to differ by having the scapulars and interscapular region black, without any tint of purplish blue.

35. Ixus goiavier (99).

P.Z.S. 1879, p. 72.

[Basilan, ♀, June.]

36. Hypsipetes rufigularis.

Hypsipetes rufigularis, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 335.

[Basilan, ♂, May, June.]

37. Copsychus mindanensis (106).

[Basilan, ♂ ♀, May and June.]

38. Orthotomus frontalis.

Orthotomus frontalis, Sharpe, Ibis, 1877, p. 112, t. ii. f. 1.

[Basilan, ♀, May: iris clay-colour; maxilla brown; mandible pale whitish; legs pale clear brown.]

The amount of rufous on the head of this species varies considerably in different individuals. In some it occupies the whole forehead and extends back to the vertex, and also colours the ear-coverts and a broad space below the eyes.

39. Dicæum hypoleucum.

Dicæum hypoleucum, Sharpe, Nature, August 1876, p. 298; id. Tr. L. S. ser. 2, Zool. i. p. 339. no. 96.

[Basilan, ♂, May: iris bright warm brown; bill black; legs dark grey.]

40. Cyrtostomus jugularis (123).

[Basilan, ♂ ♀, May and June.]

One of the four adult males sent by Mr. Everett has a distinct broad metallic blue frontal patch.

41. Anthothreptus chlorogaster.

Anthreptes chlorigaster, Sharpe, Tr. L. S. ser. 2, Zool. i. p. 342. no. 107.

[Basilan, ♀, June.]

I thus identify a single example of the female; but specimens of the male have to be examined before the identity of the species can with certainty be determined.

42. Corvus philippinus (125).

[Basilan, ♂ juv., May.]

Basal portion of body-plumage grey.

43. Calornis panayensis (128).

[Basilan, ♀, May.]

44. Sarcops calvus (129).

[Basilan, ♂ ♀, June.]

One example (♂) with interscapular region brown, the others with that part hoary-grey.

P.Z.S.1879, p. 73.

45. Osmotreron vernans (135).

[Basilan, ♀, May.]

46. Ptilopus melanocephalus.

Ptilopus melanocephalus (Forster); Tweeddale, P. Z. S. 1878, p. 951. [*Anteà*, p. 642.]

[Basilan, ♂ ♀, May, June.]

Not to be distinguished from Zamboanga examples.

47. Ramphiculus occipitalis (138).

[Basilan, ♀, June: iris light hazel-brown.]

48. Phabotreron brevirostris.

Phabotreron brevirostris, Tweeddale, P. Z. S. 1877, p. 549. [*Anteà*, p. 473.]

[Basilan, ♀, May: iris light warm brown; bill black; feet carmine.]

49. Carpophaga ænea (141).

[Basilan, ♂ ♀, May.]

50. IANTHŒNAS GRISEIGULARIS (145).

[Basilan, ♂ ♀, May and June.]

51. MACROPYGIA EURYCERCA.

Macropygia eurycerca, Tweeddale, P. Z. S. 1878, p. 288. no. 49. [*Anteà*, p. 594.]

[Basilan, ♀, May.]

52. CHALCOPHAPS INDICA (150).

[Basilan, ♂ ♀, May and June.]

53. GALLUS BANKIVA (153).

[Basilan, ♂ ♀, May.]

54. MEGAPODIUS DILLWYNI (158).

Megapodius dillwyni, Tweeddale, P. Z. S. 1877, p. 766. [*Anteà*, p. 540.]

[Basilan, ♀, June.]

55. TOTANUS CALIDRIS (184).

[Basilan, ♀, May: iris bright brick-red.]

The occurrence of the Redshank in the Philippines is thus established.

56. NYCTICORAX MANILLENSIS (198).

[Basilan, ♂, May. Iris golden-yellow; orbital region yellow-green; bill black; basal half of mandible yellow; legs light yellowish; the front of tarsi and the upper surface of feet olivaceous brown.]

APPENDIX.

I. REVISED LIST OF THE BIRDS *known to occur in the* PHILIPPINE ISLANDS, *showing their* GEOGRAPHICAL DISTRIBUTION. *Compiled by* THE EDITOR *from the foregoing writings and those of* MR. R. B. SHARPE (Trans. Linn. Soc. ser. 2, vol. i. pp. 307–355, and P. Z. S. 1879, pp. 311–317).

IN this list the islands of Palawan, Balabac, and the Sulu archipelago have been included in the Philippine area, from which they were excluded by Lord Tweeddale in his memoir (Trans. Zool. Soc. ix. p. 125). It has been thought best, more for the sake of convenience than from any fixed opinion as to whether these islands belong, zoo-geographically speaking, to the Philippines or to Borneo, to include the species recorded from those islands which are not found, so far as is known, in the Philippine area as restricted by Lord Tweeddale. These species are 43 in number and have an asterisk prefixed to their titles.

In the manuscript of an introduction to a revised list of Philippine birds, of which Lord Tweeddale was apparently contemplating the publication shortly before his death, he still excludes Palawan, Balabac, and Sulu, on the grounds that insufficient evidence existed to show a Philippine rather than a Bornean affinity in the ornis of those islands, and also that, from the reports on the collections formed there by Mr. A. H. Everett and Dr. Steere, it was proved that Bornean genera and species were rather in the preponderance.

The Marquis of Tweeddale (then Viscount Walden) enumerated 218 species in his original memoir (*l. c.*) as inhabitants of the Philippines. From this number two must be deducted, viz. (23) *Circus æruginosus* and (97) *Crateropus caudatus*. One has to be added, viz. (6*a*) *Loriculus occipitalis*, leaving a total of 217.

Since then the number of species in the area, as restricted, has been raised to 336, which, including the 43 recorded from Palawan, Balabac, or the Sulu archipelago, gives a grand total of 379.

From this amended total it may be found necessary to deduct 19 species, which are either of doubtful value, wrongly identified, or whose occurrence in the Philippines is not satisfactorily established, leaving a total of 317 in the restricted area, or 360 in the whole.

These are*:—

(10) *Loriculus panayensis.* Possibly identical with *L. regulus.*
(27) *Circus melanoleucus.* Authority insufficient.
(60) *Ceyx philippinensis* =(54) *Alcyone cyanopectus*?
(63) *Entomobia pileata.* Authority insufficient.
(87) *Hierococcyx strenuus.* Authority insufficient. It may be a winter migrant, and possibly =*H. sparverioides.*
(107) *Lanius schach.* Authority insufficient. Possibly =(106) *Lanius antiguanus* (*nasutus*), juv.
(143) *Hirundo striolata.* Authority insufficient ; in any case species undetermined.
(146) *Oriolus philippensis.* A doubtful species.
(177) *Ixus sinensis.* Authority insufficient.
(195) *Cisticola semirufa.* Probably the same as (196) *C. grayi.*
(226) *Dicæum trigonostigma.* Identification questioned (*vide* P. Z. S. 1877, p. 698 ; *anteà*, p. 523).
(258) *Passer montanus.* Authority insufficient.
(263) *Munia minuta.* Probably the young of (260) *M. jagori.*
(272) *Ptilopus incognitus.* May be (270) *P. leclancheri*, juv.
(296) *Arborophila*, sp.? Occurrence not established.
(301) *Rollulus*, sp.? Occurrence not established.
(314) *Himantopus autumnalis* =(315) *H. leucocephalus*?
(322) *Porzana bailloni.* Authority insufficient.
(324) *Rallina fasciata.* Probably =(325) *R. euryzonoides.*

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* These statements are made on the authority of Lord Tweeddale's MS. notes.

Species.	No. of species in original memoir.	Philippines.																						Celebes.	Borneo.	Java.	Sumatra.	Malay peninsula.	Timor.	India.	Australian Region.	Polynesian Region.	Papuan Subregion.
		1	Luzon.	Camiguin.	Panay.	Zebu.	Panaon.	Leyte.	Bohol.	Negros.	Guimaras.	Dinagat.	Nipah.	Bazol.	Sakuyok.	N. Mindanao	S. Mindanao.	Malanipa.	Basilan.	Malamaui.	Sulu.	Balabac.	Palawan.	Cujo.										
1. Cacatua hæmaturopygia (*L. S. Müll.*)	1		*			*	*	*		*	*		*			*	*				*													
2. Prioniturus discurus (*Vieill.*)	2		*			*	*			*	*					*	*		*		*	*												
3. Tanygnathus luconensis (*Linn.*)	3		*			*		*		*	*					*	*	*	*		*		*											
4. " everetti, *Tweeddale*	..															*																		
*5. " burbidgei, *Sharpe*	..																				*													
6. Cyclopsitta lunulata (*Scop.*)	4		*													*	*																	
7. Loriculus philippensis (*L. S. Müll.*)	5		*													*	*																	
8. " regulus, *Souancé*	6									*																								
9. " occipitalis (*Finsch*)	6*a*															*	*																	
?10. " panayensis, *Tweeddale*	..				*																													
11. " hartlaubi (*Finsch*)	7							*	*			*		*		*	*		*															
12. " chrysonotus, *Sclater*	8					*																												
13. Hypotriorchis severus (*Horsf.*)	9									*							*									*	*				*		*	*
14. Hierax erythrogenys, *Vigors*	10		*														*																	
15. Lophospiza trivirgata (*Temm.*)	11		*																							*	*	*	*		*			
16. Teraspiza virgata, *Temm. ex Reinwdt. MS.*	12																									*	*	*	*		*			
17. Tachyspiza soloënsis (*Horsf.*)	13	*																							*	*	*	*	*				*	
18. Accipiter stevensoni, *Gurney*[3]	..																*										*							
19. Limnaëtus philippensis (*Gurney*)	14									*																								
20. Cuncuma leucogaster (*Gmel.*)	15									*															*	*	*	*	*	*	*	*	*	*
21. Spilornis holospilus (*Vigors*)	16		*			*		*		*						*	*		*															
22. Haliastur intermedius, *Gurney*	17		*			*		*	*	*	*					*	*	*								*								
23. Elanus hypoleucus, *Gould*	18		*														*		*							*								
24. Baza magnirostris, *G. R. Gray*	19	*																								*								
25. Butastur indicus (*Gmel.*)	20					*		*		*							*							*	*	*								
26. Pernis ptilinorhynchus (*Temm.*)	..															*										*	*	*			*			
?27. Circus melanoleucus (*Forster*)	21	*																											*		*			
28. " spilonotus, *Kaup*	22	*																								*			*					
29. Ninox philippensis, *Bp.*	24		*																															
30. " spilocephala, *Tweeddale*	..																*		*															
31. " lugubris, *Tickell*	..																*																	
32. Pseudoptynx philippinensis, *Kaup*	25	*																																
33. " gurneyi, *Tweeddale*	..																*																	
34. Scops everetti, *Tweeddale*	..																*		*															
*35. " rufescens (*Horsf.*)	..																				*					*	*	*	*					
36. Lempijius megalotis (*G. R. Gray*)	26		*																															
37. Scelostrix candida (*Tickell*)	27					*																												
38. Thriponax javensis (*Horsf.*)	28																*		*				*			*	*	*	*					
39. " pectoralis, *Tweeddale*	..						*																											
40. Mulleripicus funebris (*Valenc.*)	29		*																															
41. " fuliginosus, *Tweeddale*	..															*																		
42. Chrysocolaptes hæmatribon (*Wagler*)	30		*																															
43. " xanthocephalus, *Wald. & Lay.*	31									*																								
44. " lucidus (*Scop.*)	32															*	*																	
*45. " erythrocephalus, *Sharpe*	..																						*											
*46. Tiga everetti, *Tweeddale*	..																						*											
47. Yungipicus maculatus (*Scop.*)	..				*																													
48. " validirostris (*Blyth*)	33				*												*		*															
49. Harpactes ardens (*Temm.*)	34																*		*															
50. Merops philippinus, *Linn.*	35					*		*	*	*							*								*	*	*	*	*	*	*			
51. " bicolor, *Bodd.*	36				*	*		*								*	*									*		*	*					
52. Eurystomus orientalis (*Linn.*)	37		*			*	*	*		*						*	*		*				*	*	*	*	*	*			*			
53. Alcedo bengalensis, *Gmel.*	38		*			*		*	*	*							*									*	*	*			*			
54. Alcyone cyanopectus, *Lafresn.*	39	*																																
55. Pelargopsis gigantea, *Wald.*	..							*								*	*	*	*		*													
*56. " leucocephala (*Gmel.*)	..																						*			*								
57. " gouldi, *Sharpe*	40		*																															
58. Ceyx melanura (*Kaup*)	41																*																	
59. " tridactyla, *Pall.*	42	*																									*	*	*		*			
?60. " philippinensis, *Gould*	43		*																															
61. " argentata, *Tweeddale*	..															*	*																	
62. Entomobia gularis (*Kuhl*)	44				*	*	*	*								*	*																	
?63. " pileata (*Bodd.*)	45	*																								*		*	*		*			
64. Calialcyon coromanda (*Lath.*)	46																*									*	*	*	*		*			
65. Sauropatis chloris (*Bodd.*)	47		*		*	*		*	*	*	*					*	*		*						*	*	*	*	*	*	*	*		*

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[1] The first column gives the species whose exact habitat within the Archipelago is not known. [2] From Mindanao, but locality not known.

[3] Mr. Gurney is still of opinion that the bird thus identified may prove to be a distinct species. Unfortunately the specimen from which the figure (P. Z. S. 1878, pl. lvii.) was taken has been mislaid, so that it is impossible at present to settle the question.

Species.	No. of species in original memoir.	Philippines.																						Celebes.	Borneo.	Java.	Sumatra.	Malay peninsula.	Timor.	India.	Australian Region.	Polynesian Region.	Papuan Subregion.
			Luzon.	Camiguin.	Panay.	Zebu.	Panaon.	Leyte.	Bohol.	Negros.	Guimaras.	Dinagat.	Nipah.	Bazol.	Sakuyok.	N. Mindanao	S. Mindanao.	Malanipa.	Basilan.	Malamaui.	Sulu.	Balabac.	Palawan.	Cujo.										
66. Actenoides hombroni, *Bp.*	48																*																	
67. „ lindsayi, *Vigors*	49		*																															
68. Halcyon winchelli, *Sharpe*	..																*		*															
69. Xantholæma hæmacephala (*L. S. Müll.*)	50		*													*	*											*	*		*			
70. „ rosea, *Dumont*	51									*																	*							
71. Macropteryx comatus (*Temm.*)	52		*			*				*						*	*									*		*	*					
72. Chætura picina, *Tweeddale*	..																*																	
73. Collocalia troglodytes, *Wallace ex G. R. Gray*	53		*		*											*																		
74. „ francica (*Gmel.*)	..									*															*	*	*	*	*		*			
75. „ fuciphaga, *Thunb.*	..		*																						*	*	*	*	*	*	*			
76. Lyncornis macrotis (*Vigors*)	54		*																															
77. „ mindanensis, *Tweeddale*	..																*																	
78. Caprimulgus manillensis, *G. R. Gray*	55																*		*															
79. „ griseatus, *G. R. Gray*	56		*																															
80. Batrachostomus septimus, *Tweeddale*	..																*																	
81. Cacomantis merulinus, *Scop.*	57		*		*				*											*			*			*	*	*	*	*				
82. „ sepulchralis (*S. Müll.*)	..		*														*								*	*	*							
83. Chalcococcyx amethystinus (*Vigors*)	58		*																															
84. „ basalis (*Horsf.*)	..									*							*									*	*	*	*					
*85. Surniculus lugubris (*Horsf.*)	..																						*			*	*	*	*		*			
86. „ velutinus, *Sharpe*	..															*	*		*	*														
?87. Hierococcyx strenuus, *Gould*	59		*																															
88. „ pectoralis, *Cab.*	60																*																	
89. Eudynamis mindanensis (*Linn.*)	61		*							*	*					*	*	*	*															
90. Coccystes coromandus (*Linn.*)	..																*									*	*	*	*					
91. Dasylophus superciliosus, *Cuv.*	62		*																															
92. Lepidogrammus cumingi, *Fraser*	63		*																															
*93. Phœnicophaes harringtoni (*Sharpe*)	..																					*	*											
94. Centrococcyx viridis (*Scop.*)	64		*		*	*		*	*	*	*					*	*																	
*95. „ eurycercus, *Bl. ex A. Hay, MS.*	..																						*			*	*	*	*					
96. Pyrrhocentor melanops (*Less.*)	65												*			*	*		*	*														
97. Buceros hydrocorax, *Linn.*	66		*																															
98. „ mindanensis, *Tweeddale*	..															*	*		*															
99. „ semigaleatus, *Tweeddale*	..						*	*																										
100. Craniorrhinus leucocephalus (*Vieill.*)	67															*	*																	
101. „ waldeni, *Sharpe*	..				*																													
102. Penelopides panini (*Bodd.*)	68				*					*	*																							
103. „ affinis, *Tweeddale*	..							*				*				*	*		*															
104. „ manillæ (*Bodd.*)	69		*																															
*?105. Cuculus fucatus, *Peale*[1]	..																				*													
106. Lanius nasutus, *Scop.*	70		*																															
?107. „ schach, *Linn.*	71	*																																
108. „ lucionensis, *Linn.*	72		*																															
109. Artamus leucorhynchus (*Linn.*)	73		*			*		*	*	*	*					*	*		*		*				*	*	*	*		*		*		*
110. Graucalus striatus (*Bodd.*)	74																																	
*111. „ sumatrensis (*S. Müll.*)	..																						*			*		*	*					
112. Volvocivora cærulescens (*Blyth*)	75		*			*				*																								
113. „ mindanensis, *Tweeddale*	..																*																	
114. Lalage dominica (*L. S. Müll.*)	76		*		*	*		*	*	*	*	*				*	*		*	*					*	*	*	*	*	*			*	
115. Pseudolalage melanoleuca, *Blyth*	77		*																															
116. Hyloterpe philippinensis, *Walden*	78		*									*																						
117. Pericrocotus cinereus, *La Fresn.*	79	*																								*		*	*					
*118. „ igneus, *Blyth*	..																						*			*			*					
119. Dicrurus balicassius (*Linn.*)	80		*																															
120. „ striatus, *Tweeddale*	..						*																											
*121. „ palawanensis, *Tweeddale*	..																						*											
122. „ mirabilis (*Walden & Layard*)	81					*				*																								
*123. Buchanga leucophæa (*Vieill.*)	..																						*				*	*	*					
124. Philentoma cyaniceps, *Cassin*	82		*																															
125. „ albiventris, *Sharpe*	..																																	
126. Rhipidura nigritorquis, *Vigors*	83		*			*			*	*		*				*	*		*				*											
127. Cyornis banyumas (*Horsf.*)	..																						*		*	*	*	*	*					
128. „ philippinensis, *Sharpe*	84		*		*	*		*		*		*				*	*																	
129. Hypothymis azurea (*Bodd.*)	85		*			*				*	*					*	*	*	*				*			*	*	*	*		*			
130. „ cœlestis, *Tweeddale*	..											*																						

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[1] Possibly = *C. himalayensis.*

Species.	No. of species in original memoir.	Philippines.																						Celebes.	Borneo.	Java.	Sumatra.	Malay peninsula.	Timor.	India.	Australian Region.	Polynesian Region.	Papuan Subregion.
		Luzon.	Camiguin.	Panay.	Zebu	Panaon.	Leyte.	Bohol.	Negros.	Guimaras.	Dinagat.	Nipah.	Bazol.	Sakuyok.	N. Mindanao	S. Mindanao.	Malanipa.	Basilan.	Malamaui.	Sulu.	Balabac.	Palawan.	Cujo.										
131. Hypothymis superciliaris, *Sharpe*	..																	*															
132. Eumyias panayensis, *Sharpe*	..			*																													
133. Xanthopygia narcissina (*Temm.*)	..															*																	
134. Xantholestes panayensis, *Sharpe*	..			*																													
135. Butalis manillensis, *Bonap.*	86			*																													
136. „ latirostris (*Raffl.*)	..																								*	*	*	*		*			
137. Zeocephus rufus (*G. R. Gray*)	87	*																															
138. „ cinnamomeus, *Sharpe*	..																	*															
*139. „ cyanescens, *Sharpe*	..																					*											
140. Setaria ruficauda, *Sharpe*	..																	*															
141. Hirundo gutturalis, *Scop.*	88	*		*												*								*	*	*	*	*		*			*
142. „ javanica, *Sparrm.*	..				*		*	*			*											*		*	*	*	*	*	*	*			
?143. „ striolata, *Temm.*	89	*																															
144. Broderipus acrorhynchus, *Vigors*	90	*		*	*	*	*	*	*	*	*				*	*		*		*	*												
*145. „ palawanensis, *Tweeddale*	..																					*											
?146. Oriolus philippensis, *J. E. Gray*	91	*																															
*147. „ xanthonotus, *Horsf.*	..																					*											
148. „ steerii, *Sharpe*	..								*									*															
149. „ assimilis, *Tweeddale*	..				*																												
150. Turdus obscurus, *Gmel.*	92	*																							*	*	*	*		*			
151. „ chrysolaus, *Temm.*	93	*																															
152. „ varius, *Pallas*	..	*																															
153. Erythropitta erythrogastra (*Temm.*)	94															*		*															
154. „ kochi, *Brüggemann*	..	*																															
155. Melanopitta sordida (*L. S. Müll.*)	95	*														*		*				*											
156. „ steerii (*Sharpe*)	..	*														*																	
157. „ propinqua (*Sharpe*)	..															*					*												
158. Dasycrotopha speciosa, *Tweeddale*	..							*	*																								
159. Mixornis capitalis, *Tweeddale*	..					*	*				*							*															
*160. „ woodi, *Sharpe*	..																					*											
*161. Trichostoma rufifrons, *Tweeddale*	..																					*											
*162. Drymocataphus cinereiceps, *Tweeddale*	..																					*											
163. Macronus striaticeps, *Sharpe*	.										*							*															
164. Dendrobiastes basilanica, *Sharpe*	..																	*															
*165. Ptilocichla falcata, *Sharpe*	..																					*											
166. Megalurus palustris, *Horsf.*	96																													*			
167. „ ruficeps, *Tweeddale*	..	*																*															
168. Irena cyanogastra, *Vigors*	98	*		*																													
*?169. „ tweeddalii, *Sharpe*	..																					*											
170. „ melanochlamys, *Sharpe*	..																	*															
*171. Brachypus cinereifrons, *Tweeddale*	..																					*											
*172. Phyllornis palawanensis, *Sharpe*	..																					*											
173. „ flavipennis, *Tweeddale*	..				*																												
*174. Ægithina scapularis (*Horsf.*)	..																					*			*	*	*	*					
*175. Brachypodius melanocephalus (*Gmel.*)	..																					*			*	*	*	*		*			
176. Ixus goiavier (*Scop.*)	99	*					*	*	*			*			*	*		*															
?177. „ sinensis (*Gmel.*)	100	*																															
178. „ urostictus (*Salvad.*)	101	*				*					*				*	*																	
*179. Criniger frater, *Sharpe*	.																					*											
*180. „ palawanensis, *Tweeddale*	..																					*											
181. „ everetti, *Tweeddale*	..										*				*																		
182. Hypsipetes philippinensis (*Gmel.*)	102	*			*	*	*		*	*					*																		
183. „ rufigularis, *Sharpe*	..															*		*	*														
184. Monticola solitarius (*L. S. Müll.*)	103	*		*		*	*		*							*						*		*				*		*			*
185. Pratincola caprata (*Linn.*)	104	*		*				*																*		*				*			
186. Cittocincla luzoniensis (*Kittlitz*)	105	*																															
*187. „ nigra, *Sharpe*	..																					*											
188. Copsychus mindanensis (*Gmel.*)	106															*		*															
189. Calliope camtschatkensis (*Gmel.*)	107	*																												*			
190. Gerygone simplex, *Cab.*	108	*																															
191. Phyllopneuste borealis, *Blas.*	109	*			*		*									*									*	*	*						
192. „ lugubris, *Blyth*	..															*														*			
193. Acrocephalus orientalis (*Bp.*)	110	*			*																			*	*		*	*		*		*	
194. „ fasciolatus (*G. R. Gray*)	..	*																															
?195. Cisticola semirufa, *Cab.*	111	*																															

Species.	No. of species in original memoir.	Philippines.																						Celebes.	Borneo.	Java.	Sumatra.	Malay peninsula.	Timor.	India.	Australian Region.	Polynesian Region.	Papuan Subregion.
		Luzon.	Camiguin.	Panay.	Zebu.	Panaon.	Leyte.	Bohol.	Negros.	Guimaras.	Dinagat.	Nipah.	Bazol.	Sakuyok.	N. Mindanao.	S. Mindanao.	Malanipa.	Basilan.	Malamaui.	Sulu.	Balabac.	Palawan.	Cujo.										
196. Cisticola grayi, *Walden*	..														*																		
197. ,, cursitans (*Frankl.*)	..																																
198. Orthotomus derbianus, *F. Moore*	112	*																															
199. ,, castaneiceps, *Walden*	113			*					*	*																							
200. ,, frontalis, *Sharpe*	..							*			*				*	*		*															
*201. ,, ruficeps, *Less.*	..																					*			*		*	*					
202. ,, cinereiceps, *Sharpe*	..																	*															
203. ,, nigriceps, *Tweeddale*	..														*																		
204. Budytes viridis (*Gmel.*)	114	*						*								*								*	*	*	*	*	*	*			
205. Motacilla melanope, *Pallas*	115	*					*									*									*	*	*	*		*			
206. ,, luzoniensis, *Scop.*[1]	116	*																															
207. ,, ocularis, *Swinh.*	..	*																															
208. Anthus maculatus, *Hodgs.*	..	*																				*								*			
209. ,, gustavi, *Swinh.*	..	*																*															
210. Corydalla lugubris, *Walden*	117	*		*	*	*		*	*	*					*																		
211. Parus elegans, *Less.*	118	*			*				*	*												*											
*212. ,, amabilis, *Sharpe*	..																				*												
*213. Dendrophila frontalis, *Horsf.*	..																								*	*	*	*		*			
214. ,, œnochlamys, *Sharpe*	..				*																												
215. Zosterops meyeni, *Bp.*	119	*																															
216. ,, everetti, *Tweeddale*	..				*						*				*	*																	
217. ,, nigrorum, *Tweeddale*	..								*																								
218. Dicæum rubriventre, *Less.*	..	*			*						*				*	*																	
219. ,, hæmatostictum, *Sharpe*	..								*	*																							
220. ,, dorsale, *Sharpe*	..			*	*																												
221. ,, cinereigulare, *Tweeddale*	..														*	*																	
222. ,, hypoleucum, *Sharpe*	..																	*	*														
223. ,, mindanense, *Tweeddale*	..															*																	
224. ,, everetti, *Tweeddale*	..																																
225. ,, schistaceum, *Tweeddale*	..																																
*226. ,, trigonostigma, *Scop.*	..																								*	*	*	*					
227. ,, xanthopygium, *Tweeddale*	..	*																															
228. Myzanthe pygmæum, *Kittlitz*	121	*					*															*											
229. ,, modestum, *Tweeddale*	..					*																											
230. Prionochilus quadricolor, *Tweeddale*	..				*																												
231. ,, olivaceus, *Tweeddale*	..										*																						
*232. ,, xanthopygius?, *Salvad.*[2]	..																					*			*								
233. Cinnyris sperata (*Linn.*)	122	*					*		*	*	*				*							*											
234. ,, juliæ (*Tweeddale*)	..															*	*																
235. ,, jugularis (*Linn.*)	123	*		*	*		*	*	*	*					*	*		*															
*236. ,, aurora (*Tweeddale*)	..																					*											
237. Eudrepanis pulcherrima, *Sharpe*	..																	*															
238. ,, dubia, *Tweeddale*	..										*																						
*239. Chalcostetha insignis, *Jard.*	..																					*											
240. Æthopyga bella, *Tweeddale*	..														*																		
241. ,, magnifica, *Sharpe*	..				*				*																								
242. ,, shelleyi, *Sharpe*	..																				*												
*243. Anthreptes malaccensis, *Scop.*	..																							*	*	*	*	*					
244. ,, chlorigaster, *Sharpe*	..								*									*															
245. ,, griseigularis, *Tweeddale*	..													*	*																		
246. Arachnothera flammifera, *Tweeddale*	..																																
*247. ,, dilutior, *Sharpe*	..																					*											
248. Rhabdornis mystacalis (*Temm.*)	124	*									*					*																	
249. Corvus philippinus, *Bp.*	125	*	*	*	*	*	*	*	*		*				*	*		*		*													
*250. ,, pusillus, *Tweeddale*	..																					*											
251. Acridotheres cristatellus (*Linn.*)	126	*																															
252. Sturnia violacea (*Bodd.*)	127								*							*								*	*								
*253. Eulabes javanensis (*Osb.*)	..																								*	*	*	*					
254. Sarcophanops steerii, *Sharpe*	..																	*															
255. Calornis panayensis (*Scop.*)	128	*			*		*	*	*			*			*	*		*															
256. Sarcops calvus (*Linn.*)	129	*					*			*	*				*	*		*															
257. ,, lowii, *Sharpe*	..																			*													
*258. Passer montanus, *Linn.*	130	*																								*		*		*			
259. Padda oryzivora (*Linn.*)	131															*								*	*	*	*	*					
260. Munia jagori, *Cab.*	132	*			*		*	*	*						*	*																	

[1] Unidentified.

[2] Uncertain.

Species.	No. of species in original memoir.		Philippines.																						Celebes.	Borneo.	Java.	Sumatra.	Malay peninsula.	Timor.	India.	Australian Region.	Polynesian Region.	Papuan Subregion.
			Luzon.	Camiguin.	Panay.	Zebu.	Panaon.	Leyte.	Bohol.	Negros.	Guimaras.	Dinagat.	Nipah.	Bazol.	Sakuyok.	N. Mindanao.	S. Mindanao.	Malanipa.	Basilan.	Malamaui.	Sulu.	Balabac.	Palawan.	Cujo.										
*261. Munia leucogastra, _Bl._	..																							*						*		*			
262. „ atricapilla (_Vieill._)	..																*									*			*					
?263. „ minuta (_Meyen_)	133		*																															
264. Oxycerca jagori, _Cab._	134		*																															
265. „ everetti, _Tweeddale_	..		*			*																												
266. Alauda wattersi, _Swinh._	..								*																									
267. Osmotreron vernans (_Linn._)	135		*		*	*			*								*		*		*		*			*	*	*	*					
268. „ axillaris, _G. R. Gray_	136		*		*	*				*	*	*				*	*				*													
269. Treron nasica, _Schlegel_	..																						*			*								
270. Ptilopus leclancheri, _Bp._	137		*							*	*																							
271. „ melanocephalus, _Forster_	..																*		*		*						*			*				
?272. Ptilopus incognitus, _Tweeddale_	..															*																		
273. Ramphiculus occipitalis, _G. R. Gray_	138		*			*										*	*		*															
274. Phabotreron amethystina (_Bp._)	139		*				*					*				*																		
275. „ leucotis (_Temm._)	140		*							*	*																							
276. „ brevirostris, _Tweeddale_	..							*				*				*	*		*															
277. „ nigrorum, _Sharpe_	..					*				*																								
278. Carpophaga ænea (_Linn._)	141		*			*		*		*		*				*	*		*		*		*			*	*	*	*		*			
*279. „ pickeringi	..																				*													
280. Ptilocolpa griseipectus (_G. R. Gray_)	142		*														*																	
281. Myristicivora bicolor (_Scop._)	143									*			*				*	*				*			*	*	*	*	*					
282. Hemiphaga poliocephala (_G. R. Gray_)	144		*							*		*					*																	
283. Ianthœnas griseigularis, _Walden & Layard_	145		*							*	*								*		*													
284. Macropygia tenuirostris, _G. R. Gray_	146		*																		*													
285. „ eurycerca, _Tweeddale_	..									*							*		*															
286. Turtur dussumieri (_Temm._)	147		*		*	*		*	*	*						*	*																	
287. „ humilis (_Temm._)	148		*																															
288. Phlogœnas luzonica (_Scop._)	149		*																															
289. „ crinigera (_Pucher._)	..															*	*																	
290. Chalcophaps indica (_Linn._)	150		*		*	*				*						*	*		*				*			*	*	*	*		*			
*291. Calœnas nicobarica (_Linn._)	151																				*				*	*								
292. Geopelia striata (_Linn._)	152		*																						*	*	*	*	*					
*293. Polyplectrum napoleonis, _Less._	..																						*											
294. Gallus bankiva, _Temm._	153		*		*						*						*		*						*		*		*					
*295. „ stramineicollis, _Sharpe_	..																				*													
?296. Arborophila, sp.?	154	*																																
297. Excalfactoria chinensis (_Linn._)	155	*																								*		*			*			
298. Turnix ocellata (_Scop._)	156																																	
299. „ fasciata (_Temm._)	156_a_																																	
300. „ nigrescens, _Tweeddale_	..					*																												
?301. Rollulus, sp.?	157	*																																
302. Megapodius dillwynni, _Tweeddale_	158																*		*															
*303. „ cumingi, _Dillwyn_	..																					*	*											
304. „ pusillus, _Tweeddale_	..					*																												
305. Charadrius fulvus, _Gmel._	159		*			*		*	*	*						*	*					*			*	*	*	*	*	*	*	*	*	
306. Squatarola helvetica, _Linn._	160									*						*								*		*	*	*		*				
307. Ægialitis geoffroyi, _Wagl._	161							*	*	*													*			*	*	*		*				
308. „ cantiana (_Lath._)	..								*							*							*											
309. „ dubia (_Scop._)	162								*							*									*	*	*	*	*					
310. „ mongolica (_Pall._)	163							*	*																		*							
311. „ peronii (_Temm._)	..							*	*																*	*	*							
312. Strepsilas interpres (_Linn._)	..								*																*	*	*			*		*	*	
313. Esacus magnirostris (_G. St.-Hil._)	164	*																							*	*	*	*				*		
?314. Himantopus autumnalis (_Hasselq._)	165		*																															
315. „ leucocephalus, _Gould_	166															*[1]	*[2]								*	*	*	*		*		*		
316. Glareola orientalis, _Leach_	167									*																*	*			*	*	*		*
317. Porphyrio pulverulentus, _Temm._	168	*																																
318. Gallinula chloropus (_Linn._)	169		*			*		*																										
319. Gallicrex cinerea (_Gmel._)	170																*										*							
?320. Erythra phœnicura (_Forster_)	171															*	*								*	*	*	*	*					
321. Ortygometra cinerea (_Vieill._)	172					*		*			*						*								*	*	*		*	*		*		
?322. Porzana bailloni, _Vieill._	173	*																																
323. „ fusca (_Linn._)	174							*									*										*							
?324. Rallina fasciata (_Raffl._)	175		*																							*	*							
325. „ euryzonoides (_Lafr._)	..					*		*		*																								

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[1] From Mindanao, but locality not known.

[2] Occurs in the island of Billiton.

Species.	No. of species in original memoir.	Philippines.																						Celebes.	Borneo.	Java.	Sumatra.	Malay peninsula.	Timor.	India.	Australian Region.	Polynesian Region.	Papuan Subregion.
			Luzon.	Camiguin.	Panay.	Zebu.	Panaon.	Leyte.	Bohol.	Negros.	Gumaras.	Dinagat.	Nipah.	Bazol.	Sakuvok.	N. Mindanao.	S. Mindanao.	Malanipa.	Basilan.	Malamaui.	Sulu.	Balabac.	Palawan.	Cujo.										
326. Amaurornis olivacea, *Meyen*	176		*			*		*																										
327. Hypotænidia torquata (*Linn.*)	177		*			*		*		*	*					*																		
328. „ philippensis (*Linn.*)	178		*																						*							*	*	
329. „ striata, *Linn.*	179		*			*		*								*									*	*	*	*	*		*			
330. Hydrophasianus chirurgus (*Scop.*)	180		*																							*	*				*			
331. Numenius phæopus (*Linn.*)	181					*												*						*	*	*	*	*			*	*	*	*
332. Limosa ægocephala (*Linn.*)	..									*																					*			
333. „ lapponica (*Linn.*)	..								*																*	*	*			*	*	*		
334. Rhyacophilus glareola (*Gmel.*)	182		*						*																*	*	*	*	*		*			
335. Tringoides hypoleucus (*Linn.*)	183		*	*		*		*	*							*	*						*		*	*	*	*	*	*	*	*	*	*
336. Totanus calidris (*Linn.*)	184																		*						*	*	*		*		*	*		
337. „ canescens	185		*																						*	*	*				*	*		*
338. „ incanus (*Gmel.*)	..					*		*	*									*								*				*		*		*
339. Terekia cinerea (*Güld.*)	..								*																	*	*	*	*		*	*		
340. Limicola platyrhyncha (*Temm.*)	..								*																	*	*				*			
341. Limnocinclus acuminatus (*Horsf.*)	..															*										*	*					*		
342. Tringa ruficollis, *Pall.*	186		*																										*					
343. „ albescens, *Temm.*	..																								*	*	*			*		*		*
344. Gallinago scolopacina, *Bp.*	187		*					*	*																									
345. „ sthenura, *Kuhl*	..																*									*		*	*	*	*			
346. „ megala, *Swinh.*	188		*			*		*									*								*	*								
347. Rhynchæa capensis (*Linn.*)	189		*					*								*	*									*	*	*	*		*	*		
348. Melanopelargus episcopus, *Bodd.*	..							*		*							*								*	*	*	*			*			
349. Ardea purpurea, *Linn.*	190		*																						*	*	*	*			*			
350. „ flavicollis (*Lath.*)	191															*									*	*	*	*	*	*	*	*		*
351. Ardetta cinnamomea (*Gmel.*)	192		*					*									*									*	*	*			*			
352. „ sinensis (*Gmel.*)	193	*																							*	*	*		*		*			
353. Buphus coromandus (*Bodd.*)	194		*						*														*		*	*	*	*		*	*			
354. Herodias garzetta (*Linn.*)	195		*					*	*																*	*	*		*	*	*			
355. „ intermedia (*Wagl.*)	196																*									*	*			*	*			
356. Demiegretta sacra (*Gmel.*)	..					*																			*	*	*	*		*	*	*	*	*
357. Butorides javanica (*Horsf.*)	197		*			*		*		*		*				*							*		*	*	*	*	*	*	*	*	*	*
358. Nycticorax manillensis, *Vigors*	198		*			*		*		*									*															
359. „ griseus (*Linn.*)	199		*													*									*	*	*				*			
360. Gorsachius melanolophus (*Griff.*)	200																*									*	*	*	*					
361. Querquedula multicolor (*Scop.*)	201		*																															
362. Anas luzonica, *Fraser*	202		*																															
363. Dendrocygna vagans, *Eyton*	203		*			*		*	*							*	*								*		*							*
364. Nettapus coromandelianus (*Gm.*)	204		*																								*							
365. Puffinus leucomelas (*Temm.*)	205		*																															
366. Larus ridibundus, *Linn.*	206		*																															
367. Hydrochelidon hybrida (*Pall.*)	207		*																						*	*	*							
? 368. „ sp.?[1]	208		*																															
369. Sterna bergii, *Licht.*	..																																	
370. Onychoprion anæsthetus (*Scop.*)	209				*																				*	*	*							*
371. Anous stolidus (*Linn.*)	210	*																								*	*							
372. Podiceps philippensis (*Bonnat.*)[1]	211		*																															
373. Pelecanus roseus, *Gmel.*[1]	212		*																															
374. „ philippensis, *Gmel.*	213		*																															
375. Dysporus sula (*Linn.*)	214											*					*								*	*	*							*
376. „ piscator (*Linn.*)	215	*																									*						*	*
377. Phalacrocorax, sp.?[1]	216																																	
378. „ sp.[1]	217																																	
379. Plotus melanogaster, *Forster*	218		*							*															*	*	*							

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[1] Species undetermined.

II. *Descriptions of New Species of Birds from the Burmese Region.* [Extracted from Blyth's "Mammals and Birds of Burma," J. A. S. B. August 1875, pt. ii., extra number.]

[In the late Lord Tweeddale's editorial notes to the posthumous catalogue of the 'Birds of Burma,' by Edward Blyth, seven species are described as new: the original descriptions are here reprinted.—Ed.]

[306. ABRORNIS CHRYSEA, n. sp.

J. A. S. B. 1875, pt. ii. extra no. p. 106.

Above bright oil-green, two broad dark stripes, springing from the forehead, passing over the head and descending down the sides of the neck, where they are almost black. A central single stripe thus formed on the head yellowish green. A broad stripe springing near the nostril and passing over the eye, and thus bounding the dark stripe, bright yellow. Ear-coverts mingled black and green. Cheeks, chin, throat, thigh-coverts, under tail-coverts, shoulder-edge, under shoulder-coverts, and axillaries bright canary-yellow. Breast paler yellow, shading to pale silky grey on the abdominal region and flanks. Quills light brown, edged externally with bright greenish yellow. Major wing-coverts tipped and edged with yellow. Rectrices like the quills, all but the middle pair being edged on their interior margins with very pale yellow. Maxilla brown; mandible pale straw-colour. Wing 2 inches, tail 2·75, tarsus 0·56, bill (from forehead) 0·50.

Karen hills, ♀ (*W. R.**).

I am not sure whether this is not *Reguloides fulviventer*, Godwin-Austen, a species founded on a carbolized example, in which the green and yellow may have become changed to grey or altogether discharged.]

[337. ZOSTEROPS AUSTENI, n. sp.

J. A. S. B. 1875, pt. ii. extra no. p. 111.

Karen-nee, at 2500 feet (*W. R.*).

Above, dark uniform oil-green; underneath, light yellowish green, almost pure yellow on chin, throat, and under tail-coverts. A shade of black below the eye. Quills dark brown, edged externally with the colour of the dorsal plumage. Shoulder-edge bright yellow. Axillaries and under shoulder-coverts white, tinged with yellow. Rectrices hair-brown, narrowly edged externally with green. Wing 2·6 inches, tail 1·50, tarsus 0·50, bill (from forehead) 0·55.]

[369. ALCIPPE MAGNIROSTRIS, n. sp.†

J. A. S. B. 1875, pt. ii. extra no. p. 115.

Karen-nee hills, at 3000 feet (*W. R.*).

All the individuals obtained in the locality named differ from Darjeeling, Garo hills, and Naga hills examples by wanting the grey-coloured cheeks and ear-coverts of *A. nipalensis*, and by having the tail brown and not rufous. All the dimensions are greater. Wing 2·75 inches, tail 3, tarsus 0·87.]

[374. STACHYRHIS ASSIMILIS, n. sp.

J. A. S. B. 1875, pt. ii. extra no. p. 116.

Above cinereous olive-green. Feathers of the head yellow, with brown central streaks.

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* Wardlaw Ramsay.

† [This species is the true *A. phayrei*, Blyth.—Ed.]

Cheeks and ear-coverts pale brown, tinged with yellow. Entire under surface dilute yellow. Quills brown, edged externally with pale yellow. Rectrices cinereous brown, tinged with olive-green. Wing 1·92 inch, bill (from forehead) 0·56, tail 1·92, tarsus 0·58.

"Karen-nee (♂ ♀), at 2800 feet of elevation. Iris (♂) lake; bill lavender, pink at base of mandible; legs brownish yellow; feet greenish. Iris (♀) brown; bill dark plumbeous, pinkish at base of mandible; legs light greenish brown."—*W. R.*]

J. A. S. B. 1875, pt. ii. extra no. p. 118.

[384. Drymœca blanfordi, n. sp.

Above brown (darkest on the head), with an olive-green tinge, which is in some very distinct on the rump. A dull broad albescent stripe springing from the base of the bill, and extending back over and beyond the eye. Ear-coverts mingled albescent and pale brown. Cheeks, wing-lining, and all the lower surface of body yellowish white, faintly rufescent on flanks and thigh-coverts. Quills brown externally, narrowly edged with olive-green; in some with an indistinct rufous shade. Rectrices pale brown above, albescent underneath; all but middle pair with a bold subterminal brown transverse isolated mark; middle pair with a faint indication of a dark terminal spot. (♂) Wing 2 inches, tail 2·50, tarsus 0·82, bill (from forehead) 0·58.

"Iris (♀) dark buff; maxilla horny brown, mandible pale; eyelids yellowish brown; legs dull white. Iris (♂) yellowish brown; bill fleshy brown; eyelids yellowish brown. Tonghoo." —*W. R.*]

J. A. S. B. 1875, pt. ii. extra no. p. 119.

[Horeites sericea, n. sp.*

Above uniform, rather dark brown, washed with an olive tint, having in some lights a ruddy tone. Under surface of body and wing-lining silky white, the flanks, thigh-coverts, and under tail-coverts sullied with pale brown. Cheeks and ear-coverts mixed pale brown and white. Space before the eye and superciliary ridges sordid white. Quills and rectrices brown, edged with the colour of the upper plumage. Wing 2 inches, tail 1·75, tarsus 0·68, bill (from forehead) 0.60.

"Iris (♀) dull brown; bill yellow; legs fleshy white. Karen hills."—*W. R.*]

J. A. S. B. 1875, pt. ii. extra no. p. 120.

[Suya erythropleura, n. sp.

Male, above rufous brown, the base of the feathers being ash. On the lower back and upper tail-coverts the rufous hue predominates. Space before the eye dark brown. A white line, springing from near the nostril, passes back over and behind the eye. Ear-coverts, cheeks, chin, throat, breast, abdomen, and wing-lining creamy white, strongly suffused with rufo-fulvous. Flanks, thigh-coverts, and under tail-coverts bright ferruginous. Quills brown, edged with ferruginous. Rectrices like the back.

(♂) Wing 1·87 inch, tail 4·87, tarsus 0·88, bill (from forehead) 0·65. Tonghoo (*W. R.*).]

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* [=*Phylloscopus pallidipes*, Blanford.—Ed.]

III. The following is an alphabetical list of the genera and species described as new by the Author, to which are added a few remarks on various species by the Editor.

Year.		Origin of Type.	Original Reference.	Page.
1875.	Abrornis chrysea, Walden	Karen hills	J. A. S. B. 1875, pt. ii. ex. no. p. 106.	661
	Possibly the same as *Reguloides fulviventer*, G.-Aust.	Assam	J.A.S.B. xliii. pt. ii. p. 167.	
1875.	Acridotheres albocinctus, Godwin-Austen & Walden	Munipur valley	Ibis, 1875, p. 251	291
1875.	Actinura ramsayi, Walden	Karen-nee	A. M. N. H. 4, xv. p. 402	415
1877.	Æthopyga bella, Tweeddale	N.E. Mindanao	A. M. N. H. 4, xx. p. 537	565
1878.	,, dubia, Tweeddale	Dinagat, Philippines	P. Z. S. 1878, p. 112	571
1875.	,, sanguinipectus, Walden	Tonghoo hills; Karen-nee	A. M. N. H. 4, xv. p. 490	414
	affinis, *Tweeddale* (Penelopides). albocinctus, *Godwin-Austen & Walden* (Acridotheres). albigularis, *Walden* (Prinia).			
1874.	Alcedo beavani, Walden	S. Andaman	A. M. N. H. 4, xvi. p. 158	289
	A new title for *A. rufigastra*, Walden	Ditto	A. M. N. H. 4, xii. p. 447	252
1873.	,, rufigastra, Walden	S. Andaman	A. M. N. H. 4, xii. p. 487	252
	Title altered to *beavani*	Ditto	A. M. N. H. 4, xiv. p. 158	289
1874.	Alcippe collaris, Walden	Sudya, Assam	A. M. N. H. 4, xvi. p. 156	287
	= *Minla rufigularis*, Mandelli	....	S. F. 1873, p. 416.	
1875.	,, magnirostris, Walden	Karen-nee	J. A. S. B. 1875, pt. ii. ex. no. p. 115.	66
	The author agreed in considering this to be the *A. phayrei*, Bl. andamanensis, *Walden* (Geocichla). annectens, *Walden* (Ixus).	Arracan	Ibid. xiv. p. 601 (1845).	
1877.	Anthothreptes griseigularis, Tweeddale	N.E. Mindanao	P. Z. S. 1877, p. 830	557
1878.	Arachnothera flammifera, Tweeddale	S. Leyte, Philippines	P. Z. S. 1878, p. 343	598
	argentata, *Tweeddale* (Ceyx). assimilis, *Tweeddale* (Oriolus). ,, *Walden* (Passer). ,, *Walden* (Stachyrhis). aureopygia, *A. Hay* (Phœnicornis). aureus, *Walden* (Criniger). aurora, *Tweeddale* (Cyrtostomus). austeni, *Walden* (Zosterops).			
1877.	Batrachostomus septimus, Tweeddale	S.W. Mindanao	P. Z. S. 1877, p. 542	465
	beavani, *Walden* (Alcedo). ,, *Walden* (Prinia). bella, *Tweeddale* (Æthopyga). bicolor, *Walden* (Porzana). blanfordi, *Walden* (Drymœca). brevirostris, *Tweeddale* (Phabotreron).			
1877.	Brachypteryx buxtoni, Tweeddale	S.E. Sumatra	P. Z. S. 1877, p. 367	438
1878.	Brachypus cinereifrons, Tweeddale	Palawan	P. Z. S. 1878, p. 617	612

Year.		Origin of Type.	Original Reference.	Page.
1878.	Broderipus palawanensis, Tweeddale	Palawan	P. Z. S. 1878, p. 616	611
	brunneiceps, *Walden* (Munia).			
1845.	Buceros elliotti, A. Hay	Malacca	Madr.J.L.&Sc.xiii.p.152	6
	Is identical with *B. malayanus*, Raffles.			
1877.	,, mindanensis, Tweeddale	S.W. Mindanao	P. Z. S. 1877, p. 541	467
1878.	,, semigaleatus, Tweeddale	S. Leyte, Philippines	P. Z. S. 1878, p. 277	584
1870.	Buchanga leucogenys, Walden	Nagasaki	A. M. N. H. 4, v. p. 219	94
1870.	,, mouhoti, Walden	Cambodia	A. M. N. H. 4, v. p. 220	95
	Is said to be inseparable from *B. intermedia*, Blyth, *vide* J. A. S. B. 1875, ex. no. pt. ii. p. 130.	Penang	J. A. S. B. xv. p. 298.	
1870.	,, wallacei, Walden	Lombock	A. M. N. H. 4, v. p. 220	95
	Said by Mr. Sharpe, Cat. B. iii. p. 250, to be same as Javan bird, *B. cineracea*, Horsf., ap. Sharpe, *l. c.*; *B. leucophæa*, Vieill., ap. Walden, Ibis, 1878, p. 75.			
1845.	Butastur fasciatus, A. Hay	Malacca	Madr.J.L.&Sc.xiii.p.146	2
	Is *B. indicus* (Gmel.)	Java	S. N. i. p. 264 (1788).	
	buxtoni, *Tweeddale* (Brachypteryx).			
1872.	Calornis crassirostris, Walden	Lombock	Tr. Z. S. viii. p. 80	180
1872.	,, neglecta, Walden	Celebes; Sula Is.	Tr. Z. S. viii. p. 79	179
1845.	Caprimulgus pulcher, A. Hay	Malacca	Madr.J.L.&Sc.xiii.p.161	13
	Is equivalent to *Lyncornis temmincki*, Gould	Borneo	Icon. Av. pl. 6 (1838).	
	castaneiceps, *Walden* (Orthotomus).			
1874.	Carpophaga pulchella, Walden	Togian Islands	A. M. N. H. 4, xvi. p.157	288
	capitalis, *Tweeddale* (Mixornis).			
1845.	Ceblepyris culminatus, A. Hay	Malacca	Madr.J.L.&Sc.xiii.p.157	10
1877.	Ceyx argentata, Tweeddale	N.E. Mindanao	A. M. N. H. 4, xx. p. 533	561
1878.	Chætura picina, Tweeddale	S.W. Mindanao	P. Z. S. 1878, p. 944	635
	chlorocephalus, *Walden* (Phyllornis). chloroptera, *Walden* (Myzomela). chocolatina, *Godwin-Austen & Walden* (Pnoepyga). chrysea, *Walden* (Abrornis).			
1877.	Chrysococcyx limborgi, Tweeddale	Mooleyit, Tenasserim	P. Z. S. 1877, p. 366	437
1872.	Chrysocolaptes xanthocephalus, Walden & Layard	Negros, Philippines	Ibis, 1872, p. 99	118
	cinerascens, *Walden* (Eurycercus). cinereiceps, *Tweeddale* (Drymocataphus). cinereifrons, *Tweeddale* (Brachypus). cinereigulare, *Tweeddale* (Dicæum).			
1872.	Cisticola grayi, Walden	Celebes	A. M. N. H. 4, ix. p. 400	127
1871.	,, ruficollis, Walden	Debrooghur	A. M. N. H. 4, vii. p. 342	98
	cœlestis, *Tweeddale* (Hypothymis). collaris, *Walden* (Alcippe).			
1878.	Corvus pusillus, Tweeddale	Palawan	P. Z. S. 1878, p. 622	617
1875.	Corydalla lugubris, Walden	Guimaras, Philippines	Tr. Z. S. ix. p. 198	362

Year.		Origin of Type.	Original Reference.	Page.
1870.	COSMETEIRA MINIMA, Walden	Mysol	Ibis, 1870, p. 50	92
	= *Cinnyris eques*, Lesson	Waigiou	Tr. d'Orn. p. 299 (1831).	
	crassirostris, *Walden* (Calornis).			
	,, *Walden* (Hierococcyx).			
1872.	CRINIGER AUREUS, Walden	Togian Is.	A. M. N. H. 4, ix. p. 400	126
1877.	,, EVERETTI, Tweeddale	N.E. Mindanao	A. M. N. H. 4, xx. p. 535	563
1878.	,, PALAWANENSIS, Tweeddale	Palawan	P. Z. S. 1878, p. 618	613
	culminatus, *A. Hay* (Ceblepyris).			
1878.	CYRTOSTOMUS AURORA, Tweeddale	Palawan	P. Z. S. 1878, p. 620	615
1878.	DASYCROTOPHA, Tweeddale	....	P. Z. S. 1878, p. 114	574
1878.	DASYCROTOPHA SPECIOSA, Tweeddale	Negros, Philippines	P. Z. S. 1878, p. 114	574
1877.	DICÆUM CINEREIGULARE, Tweeddale	N.E. Mindanao	P. Z. S. 1877, p. 829	555
1877.	,, EVERETTI, Tweeddale	Dinagat, Philippines	A. M. N. H. 4, xx. p. 537	564
1877.	,, MINDANENSE, Tweeddale	S.W. Mindanao	P. Z. S. 1877, p. 547	471
1878.	,, MODESTUM, Tweeddale	Panaón, Philippines	P. Z. S. 1878, p. 380	604
1875.	,, OLIVACEUM, Walden	Tonghoo and Karen hills	A. M. N. H. 4, xv. p. 401	414
1877.	,, SCHISTACEUM, Tweeddale	Dinagat, Philippines	A. M. N. H. 4, xx. p. 537	564
1877.	,, XANTHOPYGIUM, Tweeddale	Luzon	A. M. N. H. 4, xx. p. 95	510
1872.	DICRURUS MIRABILIS, Walden & Layard	Luzon, Negros	Ibis, 1872, p. 103	120
1878.	,, PALAWANENSIS, Tweeddale	Palawan	P. Z. S. 1878, p. 614	609
1877.	,, STRIATUS, Tweeddale	S.W. Mindanao	P. Z. S. 1877, p. 545	469
	dillwynni, *Tweeddale* (Megapodius).			
1878.	DRYMOCATAPHUS CINEREICEPS, Tweeddale	Palawan	P. Z. S. 1878, p. 617	612
1875.	,, FULVUS, Walden	Karen-nee	A. M. N. H. 4, xv. p. 401	414
	= *Pellorneum tickelli*, Blyth	Tenasserim Mts.	J. A. S. B. xxviii. p. 414.	
1875.	DRYMŒCA BLANFORDI, Walden	Tonghoo	J. A. S. B. 1875, pt. ii. ex. no. p. 118.	662
	dubia, *Tweeddale* (Æthopyga).			
1875.	DUCULA GRISEICAPILLA, Walden	Karen hills	A. M. N. H. 4, xvi. p. 228	416
	elegans, *A. Hay* (Muscipeta).			
	elliotti, *A. Hay* (Buceros).			
1870.	EPHIALTES JERDONI, Walden	Malabar	A. M. N. H. 4, v. p. 417.	97
	= *Scops malabaricus*, Jerdon	Ditto	Madr. J. L. & Sc. xiii. p. 119	97
	erythropleura, *Walden* (Suya).			
	eurycerca, *Tweeddale* (Macropygia).			
1874.	EURYCERCUS CINERASCENS, Walden	Dobri, Lower Bengal	A. M. N. H. 4, xvi. p. 156	288
	everetti, *Tweeddale* (Criniger).			
	,, *Tweeddale* (Dicæum).			
	,, *Tweeddale* (Oxycerca).			
	,, *Tweeddale* (Scops).			
	,, *Tweeddale* (Tanygnathus).			
	,, *Tweeddale* (Tiga).			
	,, *Tweeddale* (Zosterops).			
	fasciatus, *A. Hay* (Butastur).			
	ferrea, *Walden* (Hypotænidia).			

Year.		Origin of Type.	Original Reference.	Page.
	finschi, *Walden* (Trichostoma).			
	flammifera, *Tweeddale* (Arachnothera).			
	flavipennis, *Tweeddale* (Phyllornis).			
	fuliginosus, *Tweeddale* (Mulleripicus).			
	fulvus, *Walden* (Drymocataphus).			
	fumigata, *Walden* (Munia).			
1874.	GEOCICHLA ANDAMANENSIS, Walden	S. Andaman	A. M. N. H. 4, xvi. p. 156	287
1870.	,, LAYARDI, Walden	Ceylon	A. M. N. H. 4, v. p. 416	96
	=*G. citrina* (Lath.), *fide* Seebohm (*in epist.*).	India	Ind. Orn. i. p. 350.	
	gigantea, *Walden* (Pelargopsis).			
1870.	GLAUCOMYIAS SORDIDA, Walden	Ceylon	A. M. N. H. 4, v. p. 218	93
1845.	GRACULA INTERMEDIA, A. Hay	N. India	Madr.J.L.&Sc.xiii.p.157	10
	grayi, *Walden* (Cisticola).			
	griseicapilla, *Walden* (Ducula).			
	griseigularis, *Tweeddale* (Anthothreptes).			
	,, *Walden & Layard* (Ianthœnas).			
	gurneyi, *Tweeddale* (Pseudoptynx).			
1872.	HIEROCOCCYX CRASSIROSTRIS, Walden	N. Celebes	A. M. N. H. 4, ix. p. 305	123
1875.	HOREITES SERICEA, Walden	Karen hills	J. A. S. B. 1875, pt. ii. ex. no. p. 119.	662
	=*Phylloscopus pallidipes*, Blanford	Sikhim	Ibid. 1872, pt. ii. p. 162.	
1872.	HYLOTERPE PHILIPPINENSIS, Walden	Luzon	A. M. N. H. 4, x. p. 252	234
1872.	,, SULPHURIVENTRIS, Walden	N. Celebes	A. M. N. H. 4, ix. p. 399	126
1874.	HYPOTÆNIDIA FERREA, Walden	S. Andaman	Ibis, 1874, p. 147	267
	A synonym of *H. striata*, Linn., *vide* P. Z. S. 1874, p. 147 [p. 541].	Philippines	S. N. i. p. 262.	
1877.	HYPOTHYMIS CŒLESTIS, Tweeddale	Dinagat, Philippines	A. M. N. H. 4, xx. p. 536	564
	incognitus, *Tweeddale* (Ptilopus).			
	inornata, *Walden* (Megalæma).			
	intermedia, *A. Hay* (Gracula).			
	insignis, *Walden* (Poliohierax).			
1872.	IANTHŒNAS GRISEIGULARIS, Walden & Layard	Guimaras, Philippines	Ibis, 1872, p. 104	121
1874.	,, NICOBARICA*, Walden	Nicobars	A. M. N. H. 4, xvi. p. 157	288
	=*I. palumboides*, Hume	Andamans	S. F. i. p. 302.	
	jerdoni, *Walden* (Ephialtes).			
	,, *Walden* (Timelia).			
	juliæ, *Tweeddale* (Nectarophila).			
1870.	IRENA TURCOSA, Walden	Java	A. M. N. H. 4, v. p. 417	96
1875.	IXUS ANNECTENS, Walden	Rangoon	A. M. N. H. 4, xv. p. 401	414
1872.	LALAGE LEUCOPYGIALIS, Walden	Menado, Celebes	Tr. Z. S. viii. p. 69	170
	layardi, *Walden* (Geocichla).			
	leucogaster, *Walden* (Garrulax).			

[* Lord Walden was perfectly justified in separating the Nicobar bird from the Andaman *I. palumboides* (Hume) on the evidence he had before him at the time, for all the Nicobar specimens in his collection possess a grey head, throat, and nape, whilst all those sent to him by the Editor from the Andamans have those parts pearly white. Had Lord Walden possessed a grey-headed bird from the Andamans, or a white-headed one from the Nicobars, he would most probably have arrived at the same conclusion as Mr. Hume (*l. c.*).—ED.]

Year.		Origin of Type.	Original Reference.	Page.
	leucogenys, *Walden* (Buchanga). leucoproctum, *Tweeddale* (Trichostoma). leucopygialis, *Walden* (Lalage). leucura, *Tweeddale* (Niltava). limborgi, *Tweeddale* (Chrysococcyx).			
1875.	Lioptila saturata, Walden	Karen-nee	Ibis, 1875, p. 352, footnote.	
1877.	Loriculus panayensis, Tweeddale....................	Panay, Philippines	P. Z. S. 1877, p. 538 ..	462
	Doubtfully distinct from *L. regulus*, Souancé	*Uncertain*	Rev. et Mag. Zool. p. 22.	
1872.	,, quadricolor, Walden	Togian Is.	A. M. N. H. 4, ix. p. 398	125
	lugubris, *Walden* (Corydalla).			
1878.	Lyncornis mindanensis, Tweeddale	S.W. Mindanao	P. Z. S. 1878, p. 944 ..	635
1878.	Macropygia eurycerca, Tweeddale	Negros, Philippines ..	P. Z. S. 1878, p. 288 ..	594
	magnirostris, *Walden* (Alcippe). malayanus, *A. Hay* (Nisaëtus). ,, *A. Hay* (Scops). mariæ, *Walden* (Pomatorhinus).			
1870.	Megalæma inornata, Walden	Malabar; Coorg; Candeish.	A. M. N. H. 4, v. p. 219	94
1875.	,, ramsayi, Walden........................	Karen-nee hills	A. M. N. H. 4, xv. p. 400	413
1877.	Megalurus ruficeps, Tweeddale	Luzon	A. M. N. H. 4, xx. p. 94	509
	melanogaster, *A. Hay* (Picus). meyeri, *Walden* (Trichoglossus). mindanense, *Tweeddale* (Dicæum). mindanensis, *Tweeddale* (Buceros). ,, *Tweeddale* (Lyncornis). ,, *Tweeddale* (Volvocivora). minima, *Walden* (Cosmeteira). mirabilis, *Walden & Layard* (Dicrurus).			
1877.	Megapodius dillwynni, Tweeddale	Philippines	P. Z. S. 1877, p. 766 ..	540
1877.	,, pusillus, Tweeddale	Zebu, Philippines	P. Z. S. 1877, p. 765 ..	539
1877.	Mixornis capitalis, Tweeddale......................	Dinagat, Philippines ..	A. M. N. H. 4, xx. p. 535	563
	modesta, *Walden* (Scops). modestum, *Tweeddale* (Dicæum). mouhoti, *Walden* (Buchanga).			
1877.	Mulleripicus fuliginosus, Tweeddale	N.E. Mindanao	A. M. N. H. 4, xx. p. 534	562
1877.	,, wallacei, Tweeddale	Menado	A. M. N. H. 4, xx. p. 533	562
1872.	Munia brunneiceps, Walden........................	Macassar............	Tr. Z. S. viii. p. 73	174
1873.	,, fumigata, Walden	S. Andaman	A.M.N.H. 4, xii. p. 488	252
	munipurensis, *Godwin-Austen & Walden* (Suthora).			
1845.	Muscicapa pectoralis, A. Hay	Malacca	Madr.J.L.&Sc.xiii.p.161	13
	=*Philentoma velatum* (Temm.)	Timor and Java	Pl. Col. 334.	
1845.	Muscicapa xanthopygia, A. Hay	Malacca	Madr.J.L.&Sc.xiii.p.162	14
	Is *Muscicapula tricolor*, Hartl.	Malacca?............	Rev. Zool. p. 406 (1845).	
1845.	Muscipeta elegans, A. Hay	Hong Kong	Madr.J.L.&Sc.xiii.p.160	12
	Is equal to *M. princeps*, Temm.	....	Pl. Col. pl. 584.	

Year.		Origin of Type.	Original Reference.	Page.
1872.	MYZOMELA CHLOROPTERA, Walden	Celebes	A. M. N. H. 4, ix. p. 399	125
	neglecta, *Walden* (Calornis).			
	,, *Walden* (Sitta).			
1877.	NECTAROPHILA JULLÆ, Tweeddale	Malanipa I., Philippines	P. Z. S. 1877, p. 547	471
	nicobarica, *Walden* (Ianthœnas).			
	nigrescens, *Tweeddale* (Turnix).			
	nigriceps, *Tweeddale* (Orthotomus).			
	nigrorum, *Tweeddale* (Zosterops).			
1877.	NILTAVA LEUCURA*, Tweeddale	Tenasserim	A. M. N. H. 4, xx. p. 95	509
	=*N. leucoproctum* (Tweeddale)	Mooleyit, Tenasserim	P. Z. S. 1877, p. 366	437
1878.	NINOX SPILOCEPHALA, Tweeddale	S.W. Mindanao	P. Z. S. 1878, p. 939	631
1845.	NISAETUS MALAYANUS, A. Hay	Malacca	Madr. J. L. & Sc. xiii. p. 145	2
	Is identical with *N. albiniger*, Blyth	Ditto	J. A. S. B. xiv. p. 173.	
	nuchalis, *Tweeddale* (Pomatorhinus).			
	ochraceiceps, *Walden* (Pomatorhinus).			
	olivaceum, *Walden* (Dicæum).			
	olivaceus, *Tweeddale* (Prionochilus).			
1877.	ORIOLUS ASSIMILIS, Tweeddale	Zebu, Philippines	P. Z. S. 1877, p. 760	534
1872.	ORTHOTOMUS CASTANEICEPS, Walden	Guimaras, Philippines	A. M. N. H. 4, x. p. 252	234
1877.	,, NIGRICEPS, Tweeddale	N.E. Mindanao	P. Z. S. 1877, p. 828	554
1877.	OXYCERCA EVERETTI, Tweeddale	Luzon	A. M. N. H. 4, xx. p. 96	510
	palawanensis, *Tweeddale* (Broderipus).			
	,, *Tweeddale* (Criniger).			
	,, *Tweeddale* (Dicrurus).			
	pallidus, *Walden* (Spilornis).			
	panayensis, *Tweeddale* (Loriculus).			
1870.	PASSER ASSIMILIS†, Walden	Tonghoo	A. M. N. H. 4, v. p. 218	93
	pectoralis, *A. Hay* (Muscicapa).			
	,, *Tweeddale* (Thriponax).			
1874.	PELARGOPSIS GIGANTEA, Walden	Sulu Islands	A. M. N. H. 4, xiii. p. 123	253
1877.	PENELOPIDES AFFINIS, Tweeddale	N.E. Mindanao	A. M. N. H. 4, xx. p. 534	562

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* As Mr. Hume suggested (S. F. vii. p. 318), the type of this species is the male of that described as *Trichostoma leucoproctum* in April 1877, and is also identical with his *Muscitrea cyanea* (*l. c.* June). All three must stand under the title of *N. leucoprocta* (Tweeddale).

† Only one specimen appears to have been collected, besides the type of the species, in the Tonghoo district, which is nearly identical with a Simla example, being only a little paler as to the yellow. The type specimen is much closer to *P. rutilans*, Temm. Pl. Col. 588; in fact, as to plumage it appears to be a link between that species and *P. cinnamomeus*; but the type of *P. assimilis* is smaller than *P. cinnamomeus* of India, whereas Ningpo specimens of *P. rutilans* are larger.

Does *P. cinnamomeus* only assume the yellow on the sides of the neck and lower surface in the breeding-season, as MM. David and Oustalet state is the case with the Chinese and Japanese *P. rutilans*? If so, *P. assimilis* may be the winter plumage of *P. cinnamomeus*; but this seems to be extremely doubtful, for out of a large series in the Tweeddale collection from the Himalayas &c. all have the yellow plumage. A specimen from Ningpo of *P. rutilans* (?) has a trace of an imperfect cinnamon pectoral band, and has also the black throat-patch mottled with cinnamon. Mr. Swinhoe says nothing about such a plumage in his description of this species (Ibis, 1863, p. 379).

The type of *P. assimilis* has, of course, nothing to do with *P. flaveolus*.

Year.		Origin of Type.	Original Reference.	Page.
1877.	Phabotreron brevirostris, Tweeddale	S.W. Mindanao	P. Z. S. 1877, p. 549	473
	philippinensis, *Walden* (Hyloterpe).			
1845.	Phœnicornis aureopygia, A. Hay	Hong-Kong	Madr. J. L. & Sc. xiii. p. 159.	11
1871.	Phyllornis chlorocephalus, Walden	Tonghoo	A. M. N. H. 4, vii. p. 241	98
1877.	,, flavipennis, Tweeddale	Zebu, Philippines	P. Z. S. 1877, p. 761	535
	picina, *Tweeddale* (Chætura).			
1845.	Picus melanogaster, A. Hay Is a synonym of *P. porphyromelas*, Boie, Briefe geschr. aus Ostind. p. 143 (1832).	Malacca	Madr. J. L. & Sc. xiii. p. 153.	7
1875.	Pnoepyga chocolatina, Godwin-Austen & Walden	Munipur hills	Ibis, 1875, p. 252	291
1875.	,, roberti, Godwin-Austen & Walden	Chakha, Munipur hills, and Asalu.	Ibis, 1875, p. 252	291
1871.	Poliohierax insignis, Walden	Tonghoo	P. Z. S. 1871, p. 627	113
1875.	Pomatorhinus mariæ, Walden	Tonghoo hills	A. M. N. H. 4, xv. p. 403	415
	Is identical with *P. albigularis*, Blyth (1855)	Mooleyit, Tenasserim	J. A. S. B. xxiv. p. 274.	
1877.	,, nuchalis, Tweeddale	Karen hills	A. M. N. H. 4, xx. p. 534	563
1873.	,, ochraceiceps, Walden	Karen hills	A. M. N. H. 4, xii. p. 487	252
1872.	Porzana bicolor, Walden	Darjeeling	A. M. N. H. 4, ix. p. 47	114
1870.	Prinia albigularis, Walden	Coorg	A. M. N. H. 4, v. p. 219	94
	Is identical with *P. hodgsoni*, Blyth	Nepal?	J. A. S. B. xiii. p. 376	97
1877.	,, rafflesi, Tweeddale	S.E. Sumatra	Ibis, 1877, p. 311	495
1877.	Prionochilus olivaceus, Tweeddale	Dinagat, Philippines	A. M. N. H. 4, xx. p. 536	564
1877.	,, quadricolor, Tweeddale	Zebu, Philippines	P. Z. S. 1877, p. 762	536
1878.	Pseudoptynx gurneyi, Tweeddale	S.W. Mindanao	P. Z. S. 1878, p. 940	632
1877.	Ptilopus incognitus, Tweeddale	N.E. Mindanao	A. M. N. H. 4, xx. p. 538	565
	pulchella, *Walden* (Carpophaga).			
	pulcher, *A. Hay* (Caprimulgus).			
	pusillus, *Tweeddale* (Corvus).			
	,, *Tweeddale* (Megapodius).			
	quadricolor, *Walden* (Loriculus).			
	,, *Tweeddale* (Prionochilus).			
	rafflesi, *Tweeddale* (Prinia).			
	ramsayi, *Walden* (Actinura).			
	,, *Walden* (Megalæma).			
	roberti, *Godwin-Austen & Walden* (Pnoepyga).			
	,, *Godwin-Austen & Walden* (Sphenocichla).			
	rubiginosa, *Walden* (Trichostoma).			
	ruficeps, *Tweeddale* (Megalurus).			
	ruficollis, *Walden* (Cisticola).			
	rufifrons, *Tweeddale* (Trichostoma).			
	rufigastra, *Walden* (Alcedo).			
	sanguinipectus, *Walden* (Æthopyga).			
	saturata, *Walden* (Lioptila).			
	schistaceum, *Tweeddale* (Dicæum).			
1878.	Scops everetti, Tweeddale	S.W. Mindanao	P. Z. S. 1878, p. 942	633
1845.	,, malayanus, A. Hay	Malacca	Madr. J. L. & Sc. xiii. p. 147.	3

Year.		Origin of Type.	Original Reference.	Page.
1874.	Scops modesta, Walden	S. Andaman	A. M. N. H. 4, xiii. p. 124	253
	semigaleatus, *Tweeddale* (Buceros).			
	septimus, *Tweeddale* (Batrachostomus).			
	sericea, *Walden* (Horeites).			
1870.	Sitta neglecta, Walden	Karen hills	A. M. N. H. 4, v. p. 218	93
	sordida, *Walden* (Glaucomyias).			
	speciosa, *Tweeddale* (Dasycrotopha).			
1875.	Sphenocichla, Godwin-Austen & Walden	....	Ibis, 1875, p. 250	291
1875.	,, roberti, Godwin-Austen & Walden	North Cachar and Munipur hills.	Ibis, 1875, p. 250	291
	spilocephala, *Tweeddale* (Ninox).			
1872.	Spilornis pallidus, Walden	Northern Borneo	Ibis, 1872, p. 363	219
1875.	Stachyrhis assimilis, Walden	Karen-nee	J. A. S. B. 1875, pt. ii. ex. no. p. 116.	661
	striatus, *Tweeddale* (Dicrurus).			
	,, *Walden* (Turdinus).			
	sulphuriventris, *Walden* (Hyloterpe).			
	superciliaris, *A. Hay* (Turdinus).			
1875.	Suthora munipurensis, Godwin-Austen & Walden	Munipur hills	Ibis, 1875, p. 250	290
1875.	Suya erythropleura, Walden	Tonghoo	J. A. S. B. 1875, pt. ii. ex. no. p. 120.	662
1877.	Tanygnathus everetti, Tweeddale	N.E. Mindanao	A. M. N. H. 4, xx. p. 533	561
1870.	Thriponax pectoralis, Tweeddale	S. Leyte, Philippines	P. Z. S. 1878, p. 340	596
1878.	Tiga everetti, Tweeddale	Palawan	P. Z. S. 1878, p. 612	607
1872.	Timelia jerdoni, Walden	Khasia hills	A. M. N. H. 4, x. p. 61	216
	Doubtfully distinct from *T. pileata*, Horsf.	Java	Tr. Linn. Soc. xiii. p. 151.	
1871.	Trichoglossus meyeri, Walden	N. Celebes	A. M. N. H. 4, viii. p. 281	113
1876.	Trichostoma finschi, Walden	Macassar	Ibis, 1876, p. 377	435
1877.	,, leucoproctum, Tweeddale	Mooleyit, Tenasserim	P. Z. S. 1877, p. 366	437
	=*Muscitrea cyanea*, Hume, ♀	Tenasserim	S. F. v. p. 101.	
	=*Niltava leucura*, Tweeddale, ♀.			
1875.	Trichostoma rubiginosa, Walden	Karen-nee	A. M. N. H. 4, xv. p. 402	415
1878.	,, rufifrons, Tweeddale	Palawan	P. Z. S. 1878, p. 616	611
	turcosa, *Walden* (Irena).			
1871.	Turdinus striatus, Walden	Khasia hills	A. M. N. H. 4, vii. p. 241	98
	=*T. brevicaudatus*, Blyth	Mooleyit, Tenasserim	J. A. S. B. xxiv. p. 272.	433
1845.	Turdinus superciliaris, A. Hay*	Malacca	Madr. J. L. & Sc. xiii. p. 163.	14
	Is a synonym of *Trichixus pyrrhopygius* (Less.)	Sumatra	Rev. Zool. p. 167 (1839).	
1845.	Turdirostris, A. Hay	Malacca	Madr. J. L. & Sc. xiii. p. 164.	14
1877.	Turnix nigrescens, Tweeddale	Zebu, Philippines	P. Z. S. 1877, p. 765	538
1878.	Volvocivora mindanensis, Tweeddale	S.W. Mindanao	P. Z. S. 1878, p. 947	638
	wallacei, *Walden* (Buchanga).			
	,, *Tweeddale* (Mulleripicus).			
	xanthocephalus, *Walden & Layard* (Chrysocolaptes).			
	xanthopygia, *A. Hay* (Muscicapa).			
	xanthopygium, *Tweeddale* (Dicæum).			

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* Type of genus *Turdirostris*.

Year.		Origin of Type.	Original Reference.	Page.
1875.	Zosterops austeni, Walden	Karen-nee	J. A. S. B. 1875, pt. ii. ex. no. p. 111.	661
1877.	,, everetti, Tweeddale	Zebu, Philippines	P. Z. S. 1877, p. 762	536
1878.	,, nigrorum, Tweeddale	Negros, Philippines	P. Z. S. 1878, p. 286	592

In addition to the species included in the foregoing list are several which were described by Messrs. Jerdon and Blyth under titles bestowed in manuscript by Lord Arthur Hay.

These species have been credited to the latter author by most writers for nearly forty years, although he really did not describe them.

The following is believed to be an accurate list of the species referred to:—

Year.		Origin of Type.	Original Reference.
1845.	Brachypus criniger, A. Hay in Blyth	Malacca	J. A. S. B. xiv. p. 577.
1845.	,, modestus, A. Hay in Blyth	Malacca	J. A. S. B. xiv. p. 568.
1846.	Calornis affinis, "A. Hay," Blyth	Tipperah, Arracan, Tenasserim.	J. A. S. B. xv. p. 36.
1845.	Centropus eurycercus, A. Hay in Blyth	Malacca	J. A. S. B. xiv. p. 551.
1846.	Chaptia malayensis, A. Hay in Blyth	Malacca	J. A. S. B. xv. p. 294.
1846.	?Cuculus affinis, "A. Hay," Blyth	Malacca	J. A. S. B. xv. p. 18.
1846.	Dicæum sanguinifrons, A. Hay in Blyth	Simla	J. A. S. B. xv. p. 44.
	Is a synonym of *Cephalopyrus flammiceps*, Burton	Himalaya Mountains	P. Z. S. 1835, p. 153.
1845.	Dicrurus longicaudatus, A. Hay in Jerdon	N.W. India	Madr. J. L. & Sc. xiii. pt. 2, p. 121.
	*Dissemurus malayensis (A. Hay)	Malay Peninsula.	
1846.	?Edolius bengalensis, Blyth ex A. Hay, MS.	Assam; Arracan	J. A. S. B. xv. p. 296.
1845.	† ,, dentirostris, A. Hay in Jerdon	Eastern Ghats	Madr. J. L. & Sc. xiii. p. 121.
1845.	† ,, orissæ, A. Hay in Jerdon	Goomsoor	Madr. J. L. & Sc. xiii. p. 121.
1846.	Fringilla rubrifrons, A. Hay in Blyth	Simla	J. A. S. B. xv. p. 38.
	Is identical with *Metoponia pusilla*, Pallas	Region of the Caucasus and the Caspian Sea.	Zoogr. Ross.-As. ii. p. 28.
1845.	Gymnorhis superciliaris, Blyth ex Hay, MS.	S. Africa?	J. A. S. B. xiv. p. 553.
	=*Xanthodina petronella* (Bp.)?	Africa merid.	
1845.	Iole cinerea, A. Hay in Blyth	Malacca	J. A. S. B. xiv. p. 573.
1846.	Irena indica, A. Hay in Blyth	India	J. A. S. B. xv. p. 309.
	=*I. puella*, Lath.		
1846.	Tchitrea affinis, Blyth ex A. Hay, MS.	Malay Peninsula	J. A. S. B. xv. p. 292.

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* So referred to at p. 99 (Ibis, 1871, p. 174). The title seems to have first been used by Jerdon (Birds of Ind. i. p. 438), and credited to Blyth, who possibly derived it from Lord Arthur Hay's manuscript. At p. 497 (Ibis, 1877, p. 313) Lord Tweeddale himself attaches Blyth's name to the title.

† The author does not mention these titles in his writings; but Jerdon (*l. c.*) states that they were bestowed on two supposed new species in a "Monograph of the Dicruridæ," which was never published, although intended for publication in the Asiatic Society's Journal.

IV. *List of Species of which Illustrations are given in the original papers.*

Accipiter stevensoni	P. Z. S. 1878, pl. lvii., p. 938.
Acridotheres cinereus	Tr. Z. S. 1872, pl. x. fig. 1, p. 77.
Ægialitis peronii	Tr. Z. S. 1872, pl. x. fig. 2, p. 90.
Ægithina viridissima	Ibis, 1877, pl. v., p. 304.
Æthopyga christinæ	Ibis, 1870, pl. i. fig. 1, p. 36.
Amaurornis olivacea	Tr. Z. S. 1875, pl. xxxiii. fig. 2, p. 231.
Artamus monachus	Tr. Z. S. 1872, pl. vi. fig. 1, p. 67.
Batrachostomus affinis	P. Z. S. 1877, pl. xlv., p. 426.
,, cornutus	P. Z. S. 1877, pl. xlvi., p. 432.
,, moniliger	P. Z. S. 1877, pls. xlviii., xlix., p. 439.
,, stellatus	P. Z. S. 1877, pl. xlvii., p. 436.
Brachypteryx buxtoni	Ibis, 1877, pl. vi. fig. 2, p. 308.
Buceros exaratus	Tr. Z. S. 1872, pl. v., p. 47.
Centrococcyx andamanensis	Ibis, 1873, pl. xi., p. 305.
Ceyx argentata	P. Z. S. 1878, pl. vi., p. 108.
Chætura picina	P. Z. S. 1878, pl. lix., p. 944.
Chrysocolaptes xanthocephalus	Ibis, 1872, pl. iv., p. 99.
Copsychus mindanensis	Tr. Z. S. 1875, pl. xxxiii. fig. 1, p. 194.
Craniorrhinus leucocephalus	Tr. Z. S. 1875, pl. xxvii., p. 165.
Criniger everetti	P. Z. S. 1877, pl. lxxxiv., p. 826.
Cyornis rufigula	Tr. Z. S. 1872, pl. vii. fig. 3, p. 66.
Dasycrotopha speciosa	P. Z. S. 1878, pl. ix., p. 114.
Dendrocitta bayleyi	Ibis, 1874, pl. vi., p. 145.
Dicæum everetti	P. Z. S. 1878, pl. viii. fig. 2, p. 570.
,, schistaceum	P. Z. S. 1878, pl. viii. fig. 1, p. 570.
,, trigonostigma	Ibis, 1876, pl. x. fig. 2, p. 350.
,, xanthopygium	P. Z. S. 1877, pl. lxxiii. fig. 1, p. 698.
Dicrurus balicassius	Tr. Z. S. 1875, pl. xxxi. fig. 1, p. 180.
,, mirabilis	Ibis, 1872, pl. v., p. 103.
Drymocataphus tickelli	Ibis, 1877, pl. xi., p. 452.
Erythropitta kochi	P. Z. S. 1878, pl. xxvi., p. 430.
Eudynamis ransomi	Ibis, 1869, pl. x., p. 343.
Geocichla erythronota	Tr. Z. S. 1872, pl. vi. fig. 2, p. 61.
Graucalus striatus	Tr. Z. S. 1875, pl. xxx. fig. 1, p. 175.
,, temmincki	Tr. Z. S. 1872, pl. xii., p. 113.
Hierococcyx crassirostris	Tr. Z. S. 1872, pl. xiii., p. 116.
Hyloterpe philippinensis	Tr. Z. S. 1875, pl. xxxi. fig. 2, p. 179.
Hypothymis cœlestis	P. Z. S. 1878, pl. vii. fig. 1, p. 109.
,, puella	Tr. Z. S. 1872, pl. vii. fig. 2, p. 66.
Ianthœnas griseigularis	Ibis, 1872, pl. vi., p. 104.
,, palumboides	Ibis, 1873, pl. xiii., p. 315.
Ixus urostictus	Tr. Z. S. 1875, pl. xxxii. fig. 2, p. 191.
Kittacincla albiventris	Ibis, 1873, pl. xii. fig. 1, p. 307.
Lalage leucopygialis	Tr. Z. S. 1872, pl. viii. fig. 2, p. 69.
Lanius isabellinus	Ibis, 1867, pl. v., p. 224.
,, lucionensis	Tr. Z. S. 1875, pl. xxix. fig. 1, p. 171.
,, magnirostris	Ibis, 1867, pl. vi., p. 221.

Lanius phœnicurus	Ibis, 1867, pl. v., p. 216.
Lempijius megalotis	Tr. Z. S. 1875, pl. xxv. fig. 3, p. 145.
Leucotreron gironieri (leclancheri)	Tr. Z. S. 1875, pl. xxxiv. fig. 1, p. 213.
Limnaetus philippensis	Tr. Z. S. 1875, pl. xxiv., p. 141.
Loriculus hartlaubi	P. Z. S. 1877, pl. lxxxii., p. 819.
Megalurus ruficeps	P. Z. S. 1877, pl. lxxii., p. 695.
Megapodius pusillus	P. Z. S. 1877, pl. lxxviii., p. 765.
Merops bicolor	Tr. Z. S. 1875, pl. xxvi. fig. 1, p. 150.
,, sumatranus	Tr. Z. S. 1875, pl. xxvi. fig. 2, p. 151.
Mixornis capitalis	P. Z. S. 1878, pl. vii. fig. 2, p. 110.
Mulleripicus fuliginosus	P. Z. S. 1877, pl. lxxxiii., p. 821.
Munia brunneiceps	Tr. Z. S. 1872, pl. ix. fig. 1, p. 73.
Myalestes helianthea	Tr. Z. S. 1872, pl. vii. fig. 1, p. 66.
Nectarophila grayi	Ibis, 1870, pl. i. fig. 2, p. 42.
Ninox affinis	Ibis, 1874, pl. v., p. 129.
,, obscurus	Ibis, 1874, pl. iv., p. 129.
,, philippensis	Tr. Z. S. 1875, pl. xxv. fig. 1, p. 144.
Oriolus assimilis	P. Z. S. 1877, pl. lxxvi., p. 760.
Orthotomus nigriceps	P. Z. S. 1877, pl. lxxxv., p. 828.
Oxycerca everetti	P. Z. S. 1877, pl. lxxiii. fig. 2, p. 699.
Pellorneum subochraceum	Ibis, 1877, pl. x., p. 452.
Penelopides panini	Tr. Z. S. 1875, pl. xxviii. p. 166.
Phabotreron amethystina	Tr. Z. S. 1875, pl. xxxiv. fig. 2, p. 214.
Philentoma cyaniceps	Tr. Z. S. 1875, pl. xxxii. fig. 1, p. 182.
Phyllornis flavipennis	P. Z. S. 1877, pl. lxxvii. fig. 1, p. 761.
Picus atratus	Ibis, 1876, pl. ix., p. 343.
Poliohierax insignis	Orn. Misc. iii. pl. ciii., p. 169.
Prinia rafflesi	Ibis, 1877, pl. vi. fig. 1, p. 311.
Prionochilus quadricolor	P. Z. S. 1877, pl. lxxvii. fig. 2, p. 762.
Pseudolalage melanoleuca	Tr. Z. S. 1875, pl. xxix. fig. 2, p. 178.
Pseudoptynx gurneyi	P. Z. S. 1878, pl. lviii., p. 940.
,, philippensis	Tr. Z. S. 1875, pl. xxv. fig. 2, p. 144.
Setornis criniger	Ibis, 1872, pl. xii., p. 377.
Sturnia andamanensis	Ibis, 1873, pl. xii. fig. 2, p. 313.
Teraspiza rhodogastra	Tr. Z. S. 1872, pl. xi., p. 107.
Tiga everetti	P. Z. S. 1878, pl. xxxvii., p. 612.
Trichoglossus meyeri	Tr. Z. S. 1872, pl. iv., p. 32.
Trichostoma abbotti	Ibis, 1877, pl. xi., p. 452.
,, celebense	Ibis, 1876, pl. xi., p. 378.
,, finschi	Ibis, 1876, pl. xi., p. 378.
,, rufifrons	P. Z. S. 1878, pl. xxxviii., p. 616.
Volvocivora cærulescens	Tr. Z. S. 1875, pl. xxx. fig. 2, p. 178.
,, morio	Tr. Z. S. 1872, pl. viii. fig. 1, p. 69.
Zosterops atrifrons	Tr. Z. S. 1872, pl. ix. fig. 3, p. 72.
,, intermedia	Tr. Z. S. 1872, pl. ix. fig. 2, p. 72.
,, siamensis	Ibis, 1876, pl. x. fig. 1, p. 350.

M. J. L. & S. xiv. pt. ii. p. 74.

V. *Notice of the Habits of the large Indian Boa or Rock-Snake* *. By Lord ARTHUR HAY.

[From the 'Madras Journal of Literature and Science,' vol. xiv. pt. ii. no. 33, 1847.]

BEYOND exaggerated and overdrawn stories regarding this animal, little is generally known relative to its habits and structure; I trust therefore that the few following remarks may be found of some interest to the general reader, though offering nothing of novelty to the experienced naturalist.

The great Boa Constrictor of India is one of the most dreaded enemies of the denizens of the forest, for though totally devoid of poisonous fangs its colossal strength renders it capable of overpowering most of the larger animals when once within its grasp.

The contracting serpents have been separated by most naturalists into two divisions, those of the New World retaining the generic name of *Boa*, and those of the Old that of *Python*. In form and generic differences they disagree but slightly, and from all accounts they seem to possess similar habits.

The Boas of South America attain perhaps to a greater size than our continental Indian species; but still the Pythons of Sumatra, Java, and most of the other Eastern islands have been found of almost incredible lengths; from 30 to 40 feet, however, may be considered the maximum length of these snakes, though few are found in Southern India of greater length than from 19 to 20 feet. I have received, through the kindness of General Cullen, what was considered in Travancore to be a large specimen of the Indian Python, it having been killed in the jungles of that country just after having swallowed a full-grown spotted deer. Its victim was a doe, and large with fawn at the time; the snake is 17 feet long and measured 4 feet in circumference when it contained its prey. This is one of the largest Pythons I have heard of as having been killed in Southern India (that is, authenticated specimens), though I have frequently heard of much longer and larger monsters having been seen, though seldom actually measured.

There can be little doubt that such a snake would be fully capable of overpowering the strongest man; and natives of the jungle from whence my specimen comes assert that Bison are often destroyed by them. This remains to be proven by ocular demonstration, for though perfectly possible and far from improbable, few would believe it without unimpeachable evidence. M. J. L. & S. xiv. pt. ii. p. 75.

When first examining one of the large reptiles the question naturally arises, how does it attack its prey, and when seized how is it possible to swallow it through so small an aperture as its mouth?

A little further examination soon explains the difficulty; but as I do not suppose every one has the same opportunities I have had, and if so the inclination, I shall endeavour in a few words to show how beautifully Nature adapts the structure of her ever-varying forms for the position in which they are placed and to answer the ends for which they are created. On the first view the Python seems a heavy, thick though powerful snake, its body seeming less rounded than the more active and graceful serpents. Its belly is cased in broad flat uniform scales of a hard enamelled texture, the breadth of the body being their greatest length. These scutæ form in this, as indeed in nearly all snakes, the organs of locomotion. Its head is flattened, and its jaws are armed with two rows of strong teeth bent backwards; these when once buried in the flesh act like hooks, and prevent any animal from withdrawing itself as long as the jaws remain closed: the vertebral column is so constructed that from the middle of each vertebra on both sides a rib articulates, so loosely, that the most perfect flexibility is retained; the lower ends of each pair of ribs are joined to the inner surface of the abdominal scales and can through certain muscles be moved forward by pairs; as each pair is moved the scale to which it is joined does the same, and this being pressed upon the ground, the sharp posterior edge takes hold of the surface; and so on with them all. This principle of progression may be best seen when a snake is ascending the steps of a stair, each scale in its turn being then easily observed to catch upon the sharp angle of the step and form a point from which the next is moved. As far as I have been able to observe, the Python is sluggish in its habits, and prefers lying in wait for its prey. The smaller ones feed upon frogs, small mammalia, such as rats, mice, &c., and also birds, principally partridges and quails, these living mostly on the ground. The larger ones that are found in the jungle lie concealed from view by some bush or long grass, and when lying motionless resemble the trunk of a tree or bit of stone so closely that the eye is frequently deceived as to the object. They adopt this method of lying in wait from the comparative slowness of their progressive motion, their muscular powers being more adapted for constriction than locomotion. At the root of the tail organs may be seen resembling hooks or claws, and which have been supposed by some authors to be mere useless rudiments of limbs; but to the animal they are of the most important use, particularly to the larger species; for by them the snake fastens itself to a tree, thereby giving itself greater power and free use of its body when encircling some victim within its folds.

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* *Python molurus* of Linné. *P. tigris*, Daudin. *P. bivittatus*, Schlegel. *Pedda poda* and *Bora*, Russell, pls. 22, 23, 24, and 39.

M. J. L. & S. xiv. pt. ii. p. 76.

The neighbourhood of water or the vicinity of some forest-path is the favourite haunt of this reptile; his tail entwining round the trunk or stump of a tree, his body carefully hid from view by the thick foliage or rank grass of the jungle, he lies perfectly still and motionless, waiting for any unconscious animal that may be repairing to the stream to slake its thirst. The moment its intended victim passes within reach the snake darts upon it, making the jaws meet in its throat, and entwining its body in folds around the chest of its prey, so as to cause suffocation; death ensues merely from want of power of expansion in the chest to enable the lungs to play. When satisfied that life is extinct, the reptile gradually unlocks each limb by unfolding its body, and does not, to the best of my knowledge, further break the bones of its prey (as is commonly believed) to better enable deglutition; if any bones are fractured it is merely from the force used in suffocating the prey. In the case mentioned above there was not a single broken bone in the body of the deer, which is sufficient proof to show that deglutition can take place without fracture of the skeleton.

The next act is that of swallowing; and this is an operation that takes considerable time and exertion on the part of the snake. He generally commences by the head, which, being the smaller part, serves to extend the throat of the Python, and prepare it gradually for the immense strain it has to undergo when forcing down the more bulky part of the prey.

The mechanism of the jaws of the snake is wonderfully adapted for the distention they have to undergo—the under jaw articulates so loosely in the upper that dislocation can take place at the symphysis without causing pain; in carnivorous animals, and particularly among the Felinæ or cats, such as the tiger, the condyle of the lower jaw is deeply set in a groove in the upper, which makes it, combined as it is with its shortness and the strength of the temporal muscles, the most powerful jaw in existence. The tiger's jaws are merely meant to hold fast and tear his prey; for he, like the Python, bolts his food without mastication, the tuberculated molars in the back of his head being only to crunch and grind bones.

M. J. L. & S. xiv. pt. ii. p. 77.

From the depth of the sockets in which the condyles are placed, a lateral motion is impossible, whereas in the ruminating animals its shallowness enables them to use the lower jaw laterally as well as perpendicularly. In the Python, however, beyond the act of holding its prey, the jaws are not of any use, and consequently Nature has only provided them with a structure to answer that end already noticed in the recurved form of the teeth. Dislocation takes place as gradually as the increasing size of the prey renders distention necessary, the lower jaw hanging at length quite loose and disconnected from the upper.

It is an erroneous idea, though a very prevalent one, that the snake covers the whole of its victim with saliva from the tongue before swallowing it. A single glance at the structure of the tongue of any reptile would at once prove the absurdity of this notion, that organ being of a very long and slender form, wholly unadapted for either licking or tasting. The glands that generate the saliva are only called into action when the animal has begun to swallow. The mucus then secreted naturally assists deglutition to a great degree, but it is never poured forth till the animal actually begins to swallow.

To prevent suffocation while forcing the body down the œsophagus, two small muscles, attached to the lower jaw and also to the trachea, have been discovered, which can bring forward the larynx nearly to the mouth, which would enable any one to observe the larynx opening and shutting while deglutition is proceeding. After the entire animal is swallowed, a kind of lethargy pervades the system of the snake, and he then may be safely approached. Of this the natives are well aware, and attack him in consequence without fear.

Such are a few of the habits of this monster reptile. Much information regarding it is yet required, which could easily be gained by persons living in the neighbourhood of large jungles, where it always arrives at the greatest size; while a few notes concerning the dimensions of specimens killed, made upon the spot, would go further towards our knowledge of the sizes arrived at, than all the vague conjectures or hearsay reports often so freely circulated without any foundation.

INDEX.

abbotti (Trichostoma), 433, 511, 611.
aberrans (Brachypus), 35.
—— (Rubigula), 36.
abnormis (Picumnus), 481.
— (Sasia), 481.
Abrornis chrysea, 661, 663.
Acanthylis caudacuta, 434.
—— gigantea, 257.
—— sylvatica, 434.
Accipiter cruentus, 13, 138.
—— hyogaster, 137.
—— iogaster, 137, 138.
—— nisus, 426.
—— poliopsis, 426.
—— rufitorques, 138.
—— stevensoni, (1878) 627, 629, 630, (App.) 655.
—— virgatus, 426, 630.
Aceros plicatus, 435.
—— pusaran, 435.
—— tickelli, 435.
Acridotheres, 128, 178, 366, 367.
—— albicinctus, 291, 663.
—— cinereus, 178, 206.
—— cristatellus, (1875) 366, 367, 412, (1877) 524, (App.) 658.
—— fuliginosus, 366.
—— fuscus, 29, 178.
—— griseus, 367.
—— javanicus, 178, 367.
—— mahrattensis, 29.
—— philippensis, 367.
—— siamensis, 367, 419.
—— tristis, 246, 367.
Acrocephalus, 129, 165, 359.
—— arundinaceus, 166.
—— brunnescens, 166.
—— fasciolatus, 605, 606, 657.
—— insularis, 606.
—— magnirostris, 165.
—— orientalis, (1872) 165, 166, (1875) 359, 411, (App.) 657.
acrorhynchus (Broderipus), (1872) 119, (1873) 241, (1875) 350, 351, 411, (1877) 460, 461, 462, 469, 520, 534, 553, (1878) 569, 591, 598, 603, 611, 622, 639, 648, (App.) 657.
—— (Oriolus), (1875) 350, (1877), 469, 534.
Actenoides, 322.
—— hombroni, (1875) 299, 322, 410, (1878) 635, (App.) 656.
—— lindsayi, (1875) 299, 322, 410, (1877) 516, (App.) 656.
—— pulchella, 322.
—— variegata, 322.
Actinura, 417.
—— egertoni, 415.
—— ramsayi, 415, 663.
Actitis, 130, 195, 396.
—— glareola, 195, 249, 396.
—— hypoleucus, 195, 249.
acuminatus (Limnocinclus), 544, 560, 660.
—— (Totanus), 560.
acuticauda (Munia), (1866) 29, (1873) 252, (1874) 265, 266.
adamsi (Montifringilla), 53, 55.
adfinis (Columba), 58.
—— (Cuculus), 58.

adsimilis (Corvus), 346, 577.
advena (Corvus), 175, 176.
aëdon (Arundinax), 242.
Ægialitis, 130, 188, 390.
—— sp. ?, 624.
—— cantiana, (1872) 190, (1877) 544, 560, (1878) 619, 624, (App.) 659.
—— curonica, 189, 248, 526.
—— dubia, (1872) 188, 189, (1873) 248, (1875) 390, 412, (1877) 526, 559, (1878) 600, 624, (App.), 659.
—— geoffroyi, (1873), 248, (1875) 390, 412, (1877) 503, (App.) 659.
—— hiaticula, 189, 190.
—— minuta, (1872) 188, 189, (1873) 248, 390, (1877) 526.
—— mongola, 248.
—— mongolica, 390, 412, 659.
—— peronii, (1872) 190, 206, (1877) 527, (1878) 600, 624, (App.) 659.
—— philippensis, 527.
Ægithina, 33.
—— atricapilla, (1866) 33, 34, 35, 36, 37.
—— quadricolor, 33.
—— scapularis, (1877) 490, 491, (1878) 614, (App.) 657.
—— typhia, 490.
—— viridissima, 490, 491, 511.
—— zeylonica, 490.
ægocephala (Limosa), 586, 594, 660.
—— (Scolopax), 594.
Ægotheles, 133.
ægyptius (Centropus), 65.
—— (Cuculus), 65, 329.
ænea (Carpophaga), (1873) 245, (1875) 378, 379, 380, 412, (1877) 538, 559, (1878) 573, 594, 599, 618, 643, 650, (App.) 659.
—— (Chaptia), (1845) 13, (1866) 23, (1878) 577, 581.
—— (Columba), 183, 378.
æneicaudus (Phœnicophaes), 102, 154.
æneus (Cinnyris), 74.
—— (Cuculus), 64, 65.
ænobarbus (Allotrius), 54.
æquatorialis (Cacatua), 134.
æruginosus (Circus), (1875) 311, 410, (1877) 512, (App.) 653.
—— (Falco), 311.
Æthopyga, (1870) 71, 82, 83, 92, (1871) 104, 105, 128, 172, (1875) 296.
Æthopyga bella, (1877) 543, 555, (1878), 565, 572, (App.) 658, 663.
—— cara, 429, 430.
—— chalcopogon, 81.
—— christinæ, 83.
—— dabrii, 82, 419.
—— dubia, 566, 571, 663.
—— eupogon, (1870) 81, 104, (1872) 231, (1876) 429, 430, (1877) 488.
—— eximia, 83.
—— flavostriata, 82, 86, 172.
—— goalpariensis, 81.
—— gouldiæ, 82, 90.
—— horsfieldi, 82.
—— ignicauda, 82.
—— lathami, 104, 231.
—— lodoisia, 82.
—— magnifica, (1877) 530, 537, (1878) 593, (App.) 658.
—— miles, (1866) 19, (1870) 80, 81, 82, (1871) 105, (1872) 231, (1876) 429, 430.
—— mystacalis, 231.
—— nipalensis, 82.
—— sanguinipectus, 414, 511, 663.
—— saturata, 83, 414.
—— seheriæ, 80.
—— shelleyi, 616, 658.
—— siparaja, (1870) 81, 104, 105, (1872) 231, (1877) 488.
—— temmincki, 81.
—— vigorsi, 80, 81.
—— waldeni, 512.
afer (Corvus), 346.
—— (Cuculus), 64, 65.
—— (Leptosomus), 64.
affinis (Arachnothera), 487, 488.
—— (Batrachostomus), (1876) 434, (1877) 439, 443, 444, 445, 449, 450, 451, 452, 453, 455, 459, 506, 507, 508, 509.
—— (Calornis), (1872) 180, (1874) 266, (1875) 418, (App.) 671.
—— (Caprimulgus), 212, 326, 516.
—— (Centrococcyx), (1872) 158, 159, 160, 162, 210, (1877) 517.
—— (Centropus), 159, 161.
—— (Certhia), 87, 88.
—— (Collocalia), 239, 259, 260.
—— (Coracias), 106.
—— (Cuculus), 671.
—— (Dissemurus), 244.

affinis (Edolius), 346.
—— (Milvus), 139.
—— (Muscipeta), 499.
—— (Nectarinia), 87.
—— (Ninox), 144, 256, 257.
—— (Palæornis), 218, 236, 285.
—— (Penelopides), (1877) 543, 550, 551, 552, 562, (1878) 567, 597, 637, 647, (App.) 656, 668.
—— (Podargus), 443.
—— (Tchitrea), (1872) 226, 243, (1875) 499, (App.) 671.
—— (Sterna), 203.
—— (Vinago), 376.
africanus (Buceros), 250.
agile (Piprisoma), 430, 431.
agilis (Pipastes), 522.
Alauda, 623.
—— cœlivox, 623.
—— pispoletta, 55.
—— pratensis, 495.
—— spinoletta, 55.
—— wattersi, 621, 623, 659.
Alaudula pispoletta, 55.
—— raytal, 55.
alba (Ardea), 198, 268, 398.
—— (Columba), 380.
—— (Herodias), 198.
—— (Motacilla), 362.
—— (Platalea), 402, 403.
albertinæ (Charitornis), 177.
albertuli (Venilia), 145.
albescens (Tringa), (1873) 249, (1878) 621, 625, (App.) 660.
albicapilla (Columba), 385.
—— (Macropygia), 185.
albicinctus (Acridotheres), 291, 663.
—— (Turdus), 433.
albicollis (Pica), 176.
—— (Streptocitta), 176.
—— (Tantalus), 396.
albidus (Spilornis), 236.
albifrons (Brachypteryx), 438.
—— (Calornis), 368.
albifrontata (Sturnia), 119.
albifrontatus (Temenuchus), 50.
albigena (Sterna), 436.
albigularis (Geocichla), 262, 287.
—— (Limnaetus), 426.
—— (Mareca), 251.
—— (Pomatorhinus), 415.
albigularis (Prinia), 94, 97, 669.
albiniger (Limnaetus), 255, 425.
—— (Nisaetus), 1, 2, 668.
—— (Spizaetus), 308.
albinotatus (Caprimulgus), 326.
albipunctatus (Cuculus), 222.
albirictus (Buchanga), 577.
—— (Edolius), 24.
albirostris (Buceros), 4.
—— (Tanygnathus), 135, 544.
albispecularis (Turdus), 349.
albiventris (Alcedo), 321.
—— (Kittacincla), 242.
—— (Loxia), 265.
—— (Philentoma), 590, 656.
albus (Lanius), 339.
Alcedo, (1872) 129, 130, 148, (1875) 319, 321, 322.
—— albiventris, 321.
—— asiatica, (1872) 148, 223, (1873) 252, (1874) 260, (1875) 418, (1877) 485.
—— beavani, 289, 418, 663.
—— bengalensis, (1874) 260, (1875) 319, 410, (1877) 485, 516, 531, (1878) 596, 621, 634, (App.) 655.
—— capensis, 30.
—— chloris, (1866) 31, (1875) 322, (1877) 465, 484.
—— chlorocephala, 31, 321, 484.
—— collaris, (1866) 31, (1872) 119, 147, (1875) 322.
—— coromanda, 321.
—— cyanocephala, 485.
—— diops, 147.
—— euryzona, 485.
—— fusca, 321.
—— gularis, 320, 465.
—— ispida, 485.
—— leucocephala, 30, 321, 484.
—— luzonica, 321.
—— melanoptera, 321.
—— meninting, (1873) 148, (1874) 260, (1875) 418, (1877) 485.
—— moluccensis, 148, 252.
—— occipitalis, 31.
—— pileata, 321, 484.
—— purpurea, 320.
—— rufigastra, (1873) 252, (1874), 260, 289, (1875) 418, (App.) 663.
—— rufirostris, 320, 321.
—— smyrnensis, 30, 320, 321.
Alcippe, 132, 229, 296.
—— brunnea, 287.

Alcippe collaris, 287, 663.
—— magnirostris, 511, 661, 663.
—— nipalensis, 511, 661.
—— phayrei, 511, 661, 663.
Alcurus ochrocephalus, 230, 492.
—— striatus, 230.
Alcyone, 133, 319.
—— cyanopectus, (1875) 319, 320, 410, (App.) 654, 655.
aldrovandi (Falco), 136.
—— (Scops), 3.
alecto (Drymophila), 205.
Alectorops, 155.
—— pyrrhocephalus, 155.
alexandri (Palæornis), (1874) 235, 236, 274, 281.
alexandrinus (Charadrius), 188, 390.
Allotrius, 54, 419.
—— ænobarbus, 54.
—— xanthochlorus, 55.
alpestris (Hirundo), 350.
Alseonax latirostris, 242.
amabilis (Loriculus), 131.
—— (Parus), 658.
amasia (Nectarinia), 92.
amauronota (Strix), 312.
Amaurornis, 298, 393.
—— olivacea, (1875) 393, 409, 412, (1877) 527, 541, (1878) 601, (App.) 660.
amaurotis (Microscelis), 356.
Amblyramphus bicolor, 370.
amboinensis (Calornis), 180, 181.
—— (Certhia), 91, 93.
—— (Columba), 375.
—— (Macropygia), 247.
—— (Palumbus), 384.
—— (Polytmus), 91.
—— (Treron), 375.
ambulatoria (Crotophaga), 58, 64.
ambulatorius (Cuculus), 64.
americanus (Coccyzus), 63.
—— (Cuculus), 58, 63.
—— (Merops), 317.
amethystina (Chlorœnas), 378.
—— (Lampromorpha), 327.
—— (Phabotreron), (1875) 378, 409, (1877) 558, (1878) 572, 604, (App.) 659.
—— (Phapitreron), 378, 412.
amethystinus (Chalcococcyx), 327, 410, 656.
amherstii (Ptiloskelos), 426.
amicta (Merops), 485.
amicta (Nyctiornis), 485.
amœnus (Copsychus), 110, 494.
Ampelis phœnicea, 358.
Analcipus, 132, 296, 419.
analis (Dendrotypes), 419, 477, 480.
—— (Ixus), 355, 491, 521.
—— (Picus), 315, 480.
—— (Pycnonotus), 355.
—— (Turdus), 491.
Anas, 404.
—— boschas, 404.
—— coromandeliana, 404, 405.
—— flavirostris, 118.
—— gracilis, 201.
—— luzonica, 404, 413, 660.
—— manillensis, 404.
—— querquedula, 200.
anasthætus (Onychoprion), (1872) 203, (1874) 269, (1875) 406, 413.
—— (Sterna), 406.
andamanensis (Broderipus), 240.
—— (Buchanga), 244, 576.
—— (Centrococcyx), 240.
—— (Centropus), 240.
—— (Cyrtostomus), 615.
—— (Dicrurus), 577.
—— (Dissemuroides), 579, 580.
—— (Eulabes), 112, 246.
—— (Geocichla), 287, 666.
—— (Herodias), 249, 250.
—— (Limnaetus), 255.
—— (Pericrocotus), 244.
—— (Picus), 238.
—— (Querquedula), 251.
—— (Spizaetus), 255.
—— (Sturnia), 246.
—— (Temenuchus), 246.
andamanicus (Cyrtostomus), 615.
anderssoni (Enneoctonus), 46.
—— (Lanius), 46, 48.
angladiana (Nectarinia), 74.
ani (Crotophaga), 58, 64.
—— (Cuculus), 64.
annectens (Buchanga), 577.
—— (Corvus), 501.
—— (Dicrurus), 346, 432, 576.
—— (Ixus), 414, 666.
annulatus (Buceros), 482.
Anorhinus galeritus, 482.

Anous, 406.
—— stolidus, 406, 413, 660.
Anthochæra, 133.
Anthothreptes chlorigaster, (1877) 530, 537, 557, (1878) 593, 642, 650.
—— griseigularis, (1877) 543, 557, (1878) 572, (App. 663).
—— malaccensis, 430, 557.
Anthreptes, (1866) 21, (1870) 71, (1872) 128, 172, (1875) 296.
—— chlorigaster, (1877) 537, (1878) 593, 642, 650, (App.) 658.
—— expectata, 86.
—— flavigaster, 488.
—— griseigularis, 658.
—— lepida, 90.
—— macularia, 79.
—— malaccensis, (1870) 87, 90, (1872) 172, (1877) 489, (1878) 616, (App.) 658.
—— nuchalis, 79.
—— phœnicotis, 21, 91.
—— rectirostris, 91.
—— singalensis, 21.
—— sperata, 84.
Anthus, 628.
—— sp. ?, 628.
—— aquaticus, 55.
—— arboreus, 214, 522.
—— cervinus, 263.
—— gustavi, 437, 606, 658.
—— hasselti, 495.
—— japonicus, 522.
—— maculatus, (1877) 513, 522, (1878) 606, 615, (App.) 658.
—— malayanus, 362.
—— malayensis, 28, 495.
—— rufosuperciliaris, 263.
—— rufulus, 28.
antiguanus (Lanius), 51, 335, 654.
apicalis (Loriculus), (1875) 303, 304, (1877) 545, 547.
approximans (Circus), 141.
aquaticus (Anthus), 55.
Aquila fulvescens, 424.
—— heliaca, 424.
—— imperialis, 424.
—— nævia, 424.
arabs (Otis), 389.
Arachnecthra, (1866) 20, (1869) 52, (1870) 71, 72, 73, 74, 78, 79, 86, 88, (1872) 128, 172, (1873) 245, 364, (1878) 615.
Arachnecthra asiatica, (1866) 20, (1870) 71, 72, 73, 78, 84, 88, (1878) 615.
—— currucaria, 73.
—— falcata, 93.
—— flammaxillaris, (1866) 19, 20, (1870) 75, (1871) 105, (1873) 245, (1875) 365, (1876) 430.
—— flavigastra, 79, 172.
—— frenata, (1870) 75, 76, 79, 86, 87, (1872) 172, 245, (1875) 365, (1877) 488.
—— hypogrammica, 79.
—— intermedia, 74.
—— jugularis, (1870) 75, 76, 77, 92, (1871) 105, (1875) 364, 365, 411, (1877) 460, 462, 472, 514, 524, 537, 556, (1878) 571, 592, 599, 615.
—— lotenia, (1866) 20, (1870) 73, 74, 78, 92.
—— macularia, 231.
—— mahrattensis, 74.
—— omnicolor, 93.
—— pectoralis, (1870) 75, 76, 78, 79, 92, (1875) 365, (1877) 488.
—— philippina, 92.
—— pusilla, 92.
—— rhizophoræ, 75, 365.
—— simplex, 79.
—— solaris, 79, 84.
—— zenobia, (1866) 20, (1870) 78, 79, 89, (1875) 365.
Arachnophila simplex, 488.
Arachnoraphis, 488.
—— flaviventris, 79.
—— simplex, 79.
Arachnothera, (1870) 72, (1872) 128, 172, (1875) 296, (1877) 488.
—— affinis, 487, 488.
—— aurata, 429.
—— chrysogenys, 488.
—— dilutior, 616, 658.
—— eytoni, 488.
—— flammifera, 595, 598, 658.
—— flavigastra, 79, 488, 663.
—— longirostra, 172, 487, 488.
—— magna, 18, 53, 429.
—— modesta, 105.
—— pusilla, 487, 488.
—— simplex, 488.
—— temmincki, 488.
arboreus (Anthus), 214, 522.

Arboricola, 386.
Arborophila, 132, 386.
—— sp.?, (1875) 386, 412, (App.) 654, 659.
—— brunneipectus, 417.
Ardea, 130, 197, 398.
—— alba, 198, 268, 398.
—— asha, 249, 250.
—— australis, 399.
—— bilineata, 399.
—— caledonica, 199, 400.
—— candidissima, 399.
—— cinnamomea, 399.
—— egrettoides, 268.
—— flavicollis, 398, 660.
—— fusca, 197.
—— gardeni, 199.
—— garzetta, 198, 399.
—— goliath, 197.
—— grisea, 400.
—— gularis, 250.
—— insignis, 197.
—— intermedia, 268, 400.
—— javanica, 400, 504.
—— jugularis, 250.
—— lepida, 198.
—— leucocephala, 200.
—— longicollis, 398.
—— maculata, 199.
—— melanolopha, 401.
—— melanophis, 198.
—— melanoptera, 198.
—— melanotis, 198.
—— modesta, 198.
—— nebulosa, 198.
—— nigra, 399.
—— nigripes, (1872) 198, (1874) 268, (1875) 399, (1877) 528.
—— nycticorax, 400.
—— philippensis, 401, 402.
—— picta, 399.
—— purpurea, (1874) 268, (1875) 398, 413, (1877) 504, (App.) 660.
—— rectirostris, 197.
—— sacra, 250, 475, 504.
—— schistacea, 250.
—— sinensis, 399.
—— sumatrana, 197.
—— typhon, 197.
Ardea undulata, 402.
ardens (Fringilla), 374.
—— (Harpactes), (1875) 316, 410, (1877) 461, 464, (1878) 567, 634, (App.) 655.
—— (Niobe), 374.
—— (Pericrocotus), 225, 226, 243, 498.
—— (Phœnicornis), 498.
—— (Psarolophus), 431.
—— (Pyrotrogon), 316.
—— (Trogon), 316, 464.
Ardeola, 130, 197.
—— grayi, 197, 268.
—— leucoptera, 197, 198, 268.
—— malaccensis, 197, 198.
—— prascinoscelis, 198.
—— speciosa, 197, 198, 268.
ardeola (Dromas), 267.
Ardeomega nobilis, 197.
Ardetta, 130, 198, 398.
—— cinnamomea, (1872) 198, (1875) 398, 413, (1877) 513, 528, (1878) 601, 644, (App.) 660.
—— flavicollis, (1875) 398, 413, (1877) 560, (App.) 660.
—— gouldi, 398.
—— minuta, 402.
—— sinensis, (1872) 198, (1875) 399, 413, (App.) 660.
ardosiacea (Gallinula), 193.
arenaria (Otomela), 46.
arenarius (Enneoctonus), 46.
—— (Lanius), (1867) 38, 46, 48, (1869) 55.
argentata (Ceyx), (1877) 549, 561, (1878) 566, 567, 596, 634, (App.) 655, 664.
Argus, 232.
argus (Argusianus), 232, 503.
—— (Phasianus), 503.
Argusianus, 132, 296.
—— argus, 232, 503.
—— grayi, 218, 231.
aromatica (Columba), 182, 375, 376.
—— (Osmotreron), 375.
—— (Treron), 374, 375.
Arses, 133.
Artamides, 130, 171.
—— bicolor, 171.
Artamus, (1872) 128, 129, 168, (1875) 339, 340, (1876) 420, 421, 422, (1878) 625.
—— brevipes, 627.
—— celebensis, 627.
—— dominicanus, 32, 625.

Artamus fuscus, 626, 627.
—— insignis, 627.
—— leucogaster, (1866) 32, (1872) 168, 169, (1875) 340, (1876) 420, 422, (1878) 625.
—— leucopygialis, (1866) 31, 32, (1872) 168, (1873) 243.
—— leucorhynchus, (1866) 32, (1872) 168, 169, 225, (1873) 243, (1875) 340, 420, (1877) 462, 496, 518, (1878) 622, 625, 626, 627, 628, 646, (App.) 656.
—— leucorynus, (1875) 339, 411, (1877) 460, 468, 532, 552, (1878) 589, 597.
—— manillensis, 32.
—— maximus, 626.
—— melaleucus, (1872) 169, (1875) 340, (1876) 420, 422, (1878) 626, 627.
—— mentalis, 169.
—— monachus, (1872) 169, 206, 210, (1878) 627.
—— papuensis, 32, 169.
—— pelewensis, 627.
—— philippinus, 625.
—— spectabilis, 627.
arundinaceus (Acrocephalus), 165.
—— (Caprimulgus), 213.
Arundinax aëdon, 242.
—— olivaceus, 242.
a-scack (Lanius), 336.
asha (Ardea), 249, 250.
—— (Demiegretta), 199.
ashantensis (Dicrurus), 583.
asiatica (Alcedo), (1872) 148, 223, (1873) 252, (1874) 260, (1875) 418, (1877) 485.
—— (Arachnecthra), (1866) 20, (1870) 71, 72, 73, 78, 84, 88, (1878) 615.
—— (Certhia), 74.
asiaticus (Caprimulgus), 434.
—— (Cinclus), 54.
—— (Cinnyris), 615.
—— (Cyrtostomus), 615.
—— (Loriculus), 17.
—— (Psittacus), 49.
aspasia (Chalcostetha), 89.
—— (Cinnyris), 88.
—— (Herpotimia), 89.
—— (Nectarinia), 172.
aspasioides (Chalcostetha), 89.
assamensis (Cinnyris), 83.
assimilis (Cacomantis), 157.
—— (Circus), 141.
assimilis (Cuculus), 157.
—— (Dicrurus), 576, 577, 583.
—— (Oriolus), (1877) 530, 534, (1878) 648, (App.) 657, 668.
—— (Passer), 93, 668.
—— (Psarisomus), 418.
—— (Stachyrhis), 661, 670.
Astur, 425.
—— barbatus, 141.
—— cristatus, 307.
—— cruentus, 138.
—— iogaster, 137, 138.
—— poliopsis, 426.
—— rufitorques, 138.
—— trivirgatus, (1876) 425, 426, (1877) 477, 547, (1878) 595.
ater (Coccystes), 64.
—— (Cuculus), 64.
—— (Daptrius), 370.
ateralbus (Centropus), 158.
aterrima (Ceblepyris), 342.
aterrimus (Falco), 70.
Athene, 129, 142.
—— borneensis, 144.
—— florensis, 144.
—— hirsuta, 257.
—— malaccensis, 144.
—— ochracea, 142.
—— philippensis, 311.
—— punctulata, 142.
—— radiata, 426.
—— undulata, 426.
atra (Buchanga), (1875) 419, (1878) 575. 577, 578.
atrata (Pratincola), 165.
atratus (Picus), 427.
atricapilla (Ægithina), (1866) 33, 34, 35, 36, 37.
—— (Hæmatornis), 12.
—— (Iora), 32.
—— (Loxia), 371.
—— (Munia), 371, 372, 659.
—— (Muscicapa), 34, 36.
—— (Pitta), 227, 352.
—— (Sylvia), 36.
atricapillus (Brachyurus), 352.
—— (Halcyon), 104.
—— (Meropixus), 36.
—— (Numenius), 395.
—— (Pycnonotus), 35, 36, 419.
atriceps (Graucalus), 169.

atriceps (Parus), 490.
—— (Turdus), 37.
atrifrons (Zosterops), 173, 206.
atrigularis (Turdus), 433.
atripennis (Dicrurus), 576.
atrocæruleus (Dicrurus), 205.
atrocaudata (Muscipeta), 11.
augusta (Chalcophaps), 385.
—— (Columba), 385.
aurantia (Certhia), 88.
aurantiiventris (Yungipicus), 634.
aurantius (Picus), 314.
aurata (Arachnothera), 429.
auratus (Cuculus), 65.
—— (Lamprococcyx), 65.
aurea (Lalage), 171, 205.
aureocapilla (Motacilla), 56, 95.
aureolimbatus (Prionochilus), 173.
aureopygia (Phœnicornis), 11, 669.
aureus (Criniger), 126, 207, 665.
auriceps (Chalcostetha), 89.
auricristatus (Picus), 427.
auritus (Batrachostomus), (1877), 438, 439, 440, 441, 442, 443, 454, 507.
—— (Podargus), 442, 454.
—— (Turtur), 384.
—— (Yungipicus), 18.
aurora (Cinnyris), 658.
—— (Cyrtostomus), 607, 615, 665.
austeni (Zosterops), (1876) 431, (1878) 592, (App.) 671.
australis (Ardea), 399.
—— (Bucco), 487.
—— (Eudynamis), 61, 67.
—— (Nectarinia), 76, 79.
—— (Phalaropus), 196.
—— (Schœniculus), 560.
autumnalis (Charadrius), 390.
—— (Himantopus), (1875) 390, 412, (App.) 654, 659.
avensis (Turdus), 163.
—— (Volvocivora), 432.
Avicida magnirostris, 310.
axillaris (Osmotreron), (1875) 374, 375, 412, (1877) 460, 462, 473, 525, 538, (1878) 558, 572, 593, (App.) 659.
—— (Treron), 374, 375, 473.
azurea (Hypothymis), (1872) 120, (1873) 243, (1875) 347, 348, 411, (1877) 460, 462, 469, 499, 519, 533, 552, (1878) 568, 590, 610, 639, 648, (App.) 656.
—— (Muscicapa), 347, 499.
—— (Myiagra), 168.

bacchus (Buphus), 197.
bacha (Falco), 218.
—— (Spilornis), (1872) 218, 219, 220, (1873) 236, 237, (1874) 255.
badia (Ducula), 416, 417.
badiosus (Micropternus), 480.
badius (Merops), 317, 318.
—— (Micronisus), 426.
—— (Micropternus), 480.
—— (Phodilus), 220.
—— (Picus), 480.
bailloni (Porzana), (1875) 392, 412, (App.) 654, 659.
Balicassius, 345.
—— furcatus, 345.
—— philippensis, 24, 345.
balicassius (Corvus), (1866) 24, (1872) 171, (1875) 345, 346.
—— (Dicrurus), (1872) 120, (1875) 299, 345, 346, 409, 411, (1877) 432, 469, (1878) 518, 576, 609, (App.) 656.
bambusæ (Muscicapa), 347.
bankiva (Gallus), (1872) 186, (1875) 386, 412, (1878) 644, 651, (App.) 659.
bantamensis (Columba), 503.
banyumas (Cyornis), (1872) 214, 215, 216, (1875) 347, 411, (1877) 513, 519, 533, (1878) 610, (App.) 656.
—— (Muscicapa), 347, 610.
barbatus (Astur), 141.
barbiculus (Bucco), 324.
barroti (Phœnicophaes), 329.
bartletti (Phlegœnas), 559.
basalis (Chalcococcyx), 656.
—— (Cuculus), 636.
basilanica (Dendrobiastes), 573, 657.
Basilornis, 130, 178.
—— celebensis, 178.
—— corythaix, 178.
batchianensis (Pipastes), 214, 237.
batilda (Osmotreron), 378.
Batrachostomus, (1872) 132, (1875) 296, (1876) 434, (1877) 438, 439, 440, 441, 442, 444, 445, 454, 461, 506, (1878) 636.
—— affinis, (1876) 434, (1877) 439, 440, 441, 442, 443, 444, 445, 449, 450, 451, 452, 453, 455, 459, 506, 507, 508, 509.
—— auritus, (1877) 438, 439, 440, 441, 442, 443, 454, 507.
—— castaneus, (1877), 440, 443, 444, 506, 507, 508.

Batrachostomus cornutus, (1877) 439, 440, 442, 444, 448, 449, 451, 459, 477, 486.
—— crinitus, 441, 442.
—— hodgsoni, 417, 443.
—— javanensis, (1877) 448, 449, 450, 451, 452, 453.
—— javensis, (1877) 438, 439, 440, 442, 444, 448, 450, 451, 452, 506, 507, 508.
—— moniliger, (1877) 434, 439, 440, 441, 443, 454, 455, 458, 459, 506, 507, 508.
—— parvulus, (1877) 440, 443, 444, 452, 506.
—— psilopterus, 441.
—— punctatus, 455, 506, 508.
—— septimus, (1877) 461, 466, (1878) 635, (App.) 656, 663.
—— stellatus, (1877) 438, 439, 440, 441, 442, 444, 446, 452, 453, 454, 459, 507, 508.
—— stictopterus, (1877) 440, 452, 507, 508.
baya (Ploceus), 373, 500.
bayleyi (Dendrocitta), 266.
Baza, 129, 140, 310.
—— lophotes, 425, 426.
—— magnirostris, (1872) 140, (1875) 310, 410, (App.) 655.
—— reinwardti, 140.
beavani (Alcedo), 289, 418, 663.
—— (Prinia), 28.
belangeri (Garrulax), 25, 26, 48.
bella (Æthopyga), (1877) 543, 555, (1878) 565, 572, (App.) 658, 663.
—— (Eudrepanis), 555.
—— (Muscicapa), 10.
bengalensis (Alcedo), (1874) 260, (1875) 319, 410, (1877) 485, 516, 531, (1878) 596, 621, 634, (App.) 655.
—— (Bubo), 426.
—— (Centrococcyx), 159, 161, 162.
—— (Centropus), 64, 159, 161.
—— (Cuculus), 61, 64.
—— (Edolius), 671.
—— (Graminicola), 99, 105.
—— (Gyps), 424.
—— (Ispida), 319.
—— (Palæornis), 278.
—— (Picus), 314.
—— (Ploceus), 373.
—— (Sterna), 203.
—— (Timelia), 419.
bentet (Lanius), 43, 336.
bergii (Sterna), (1872) 203, 204, (1877) 461, 462, 475, 504, (1878) 602, 625, 628, (App.) 660.
Bhringa, (1872) 132, (1875) 296, 419, (1878) 575, 580.
—— remifer, 217, 419, 581.
bicincta (Osmotreron), 211.
bicolor (Amblyramphus), 370.
—— (Artamides), 171.
—— (Buceros), 7.
—— (Carpophaga), 184.
—— (Centropus), 158.
—— (Columba), 380, 474.
—— (Melittophas), 318.
—— (Merops), (1875) 317, 318, 409, 410, (1877) 461, 464, 485, 515, 531, 548, 596, (1878) 588, (App.) 655.
—— (Myristicivora), (1872) 184, (1875) 350, 412, (1877) 460, 462, 474, (1878) 573, 643, (App.) 659.
—— (Porzana), 114, 669.
—— (Saxicola), 357.
—— (Trichostoma), 164.
bicornis (Buceros), 331, 435.
biddulphi (Chrysonotus), 427.
bido (Falco), 218.
bilineata (Ardea), 399.
bimaënsis (Dicrurus), 205, 577.
binotatus (Caprimulgus), 213.
bitorquata (Turtur), 382.
blanfordi (Drymœca), 662, 665.
Bombycistomus, 442, 507, 508.
bonapartei (Loriculus), 646.
borealis (Phyllopneuste), (1874) 262, (1875) 359, 411, (1877) 522, (1878) 598, 640, (App.) 657.
—— (Phylloscopus), (1877) 513, 522, 535, (1878) 598, 640.
borneensis (Athene), 144.
—— (Cacomantis), 156.
—— (Centrococcyx), 159.
—— (Centropus), 159, 221.
—— (Cuculus), 156.
—— (Ninox), 220, 256, 257.
bornensis (Chalcophaps), 385.
—— (Mixornis), 227, 228.
borneoënsis (Orthotomus), 496.
—— (Volvocivora), 496.
boschas (Anas), 404.
boschii (Pitta), 494.
brachyphorus (Dissemurus), (1873) 244, (1877) 497, (1878) 575, 581, 582.
Brachypodius, 132, 296.
—— criniger, 492.
—— fuscoflavescens, 241.
—— immaculatus, 492, 493.

Brachypodius melanocephalus, (1873) 241, (1877) 492, (1878) 613, (App.) 657.
brachyptera (Piaya), 62.
Brachypternus, 118.
—— erythronotus, 118.
Brachypteryx, (1872) 132, (1875) 296, 419, (1878) 612.
—— albifrons, 438.
—— buxtoni, 438, 493, 663.
—— malaccensis, 612.
—— murinus, 612.
—— nigrocapitata, 493.
—— nigrogularis, 227.
Brachypus, 12, 34, 37.
—— aberrans, 35.
—— brunneus, 492.
—— cinereifrons, (1878) 607, 612, 657, (App.) 663.
—— criniger, 228, 229, 671.
—— cuptilosus, 356, 492.
—— gularis, (1866) 34, 35, 36, 37.
—— modestus, 492, 671.
—— plumosus, 492, 613.
—— rubineus, (1866) 34, 35, 36, 37.
—— urostictus, 356.
brachyura (Sterna), 138, 405.
Brachyurus atricapillus, 352.
—— celebensis, 164.
—— erythrogaster, 352.
—— forsteni, 164.
—— granatinus, 226.
—— propinquus, 513, 639.
—— sordidus, 352.
—— steerii, 640.
brachyurus (Corvus), 353.
—— (Micropternus), 480.
brasiliana (Certhia), (1866) 20, 21, (1870) 83, 93, (1877) 489.
—— (Leptocoma), 20, 21.
—— (Nectarophila), 72, 86, 93.
brasiliensis (Cuculus), 58, 63.
—— (Turacus), 63.
brauniana (Chaptia), 577.
bres (Lanius), 107.
brevicauda (Turdinus), 433.
—— (Turdus), 352, 353.
brevicaudatus (Turdinus), 292, 433, 670.
brevipennis (Corvus), 365, 472, 524.
brevipes (Artamus), 627.
brevirostris (Chibia), 577.
—— (Cinnyris), 615.
brevirostris (Collocalia), 239.
—— (Copsychus), 494.
—— (Cyrtostomus), 615.
—— (Hirundo), 149, 258.
—— (Linota), 55.
—— (Pericrocotus), 110, 432, 498.
—— (Phabotreron), (1877) 461, 472, 558, (1878) 572, 599, 643, 650, (App.) 659, 669.
brodei (Glaucidium), 426.
Broderipus, (1872) 128, 162, 163, 210, (1875) 350, (1877) 534.
—— acrorhynchus, (1872) 119, (1873) 241, (1875) 350, 351, 411, (1877) 460, 461, 462, 469, 520, 534, 553, (1878) 569, 591, 598, 603, 611, 622, 639, 648, (App.) 657.
—— andamanensis, 240.
—— celebensis, 210, 241.
—— chinensis, 119, 241.
—— coronatus, 162, 210, 241.
—— formosus, 241.
—— frontalis, (1872) 119, 163, (1873) 241, (1875) 350, 351.
—— indicus, 241.
—— palawanensis, (1878) 607, 611, 657, (App.) 664.
—— sinensis, 351.
bronzinus (Cacomantis), 157.
—— (Cuculus), 157.
brookeanus (Hemicercus), 481.
brunnea (Alcippe), 287.
brunneiceps (Munia), (1872) 174, 206, (1875) 371, (App.) 667.
brunneipectus (Arborophila), 417.
brunnescens (Acrocephalus), 166.
brunneus (Brachypus), 492.
—— (Picus), 104.
—— (Pycnonotus), 492.
Bubo bengalensis, 426.
—— coromandus, 426.
—— philippensis, 311.
Bubulcus, 399.
—— coromandus, (1875) 399, 413, (1878) 619, 625.
bubulus (Cuculus), 479.
bubutus (Centrococcyx), 159, 221.
—— (Centropus), 159.
—— (Cuculus), 221.
Bucco australis, 487.
—— barbiculus, 324.
—— chrysopogon, 487.
—— corvinus, 18.

Bucco duvauceli, 487.
—— fæostriatus, 18.
—— flavigula, 323.
—— hæmacephalus, 102, 323, 487.
—— indicus, 102, 103.
—— lathami, 102.
—— luteus, 323.
—— mystacophanus, 486.
—— nanus, 323.
—— niger, 324.
—— parvus, 323.
—— rafflesius, 323.
—— roseus, 324, 487.
—— rubricapillus, 324.
—— rubricollis, 323.
—— versicolor, 487.
bucephalus (Lanius), 38, 42.
Buceros, (1872) 129, 130, 150, (1875) 330, 332, 335, (1877) 483, 584.
—— africanus, 250.
—— albirostris, 4.
—— annulatus, 482.
—— bicolor, 7.
—— bicornis, 331, 435.
—— carinatus, 5.
—— cassidix, 150.
—— comatus, 4.
—— coronata, 4.
—— corrugatus, 153.
—— cristatus, 330.
—— elliotti, 6, 664.
—— exaratus, 150, 206.
—— galeritus, 482.
—— gingalensis, 4, 335.
—— gingianus, 4.
—— homrai, 16, 331.
—— hydrocorax, (1872) 115, (1875) 330, 411, (1877) 467, 468, 517, 550, (1878) 584, (App.) 656.
—— insculptus, 332.
—— javanicus, 482.
—— leucocephalus, 331.
—— malabaricus, 4.
—— malayanus, 5, 6, 664.
—— manillæ, 334.
—— manillensis, 334.
—— mindanensis, (1877) 461, 467, 468, 550, (1878) 584, 637, 647, (App.) 656, 664.
—— narcondami, 484.
—— niger, 482.
Buceros obscurus, 330, 483, 484.
—— panayensis, 332, 334.
—— panini, 332, 334.
—— pica, 7.
—— planicornis, 330.
—— platyrhynchus, 330.
—— plicatus, 482, 483, 484.
—— pucoran, 482.
—— pusaran, 482.
—— ruficollis, 482, 483.
—— semigaleatus, (1878) 585, 586, 597, 602, 603, (App.) 656, 664.
—— subruficollis, 484.
—— sulcatus, 153, 331, 332.
—— sulcirostris, 332, 334.
—— undulatus, 482, 484.
—— violaceus, 3.
Buchanga, (1866) 24, (1872) 120, 132, (1875) 296, 346, (1878) 575, 576, 577, 578, 579, 580, 610.
—— albirictus, 577.
—— andamanensis, 244, 576.
—— annectens, 577.
—— atra, (1875) 419, (1878) 575, 577, 578.
—— cærulescens, 577, 579.
—— cineracea, 578, 610, 664.
—— fingah, 120.
—— insularis, 577, 579.
—— intermedia, 23, 419, 664.
—— leucogenys, (1870) 94, (1878) 574, 578, 579, (App.) 664.
—— leucophæa, (1866) 23, (1870) 95, (1877) 477, 498, (1878) 578, 610, (App.) 656, 664.
—— leucopygialis, 579.
—— longicaudata, 23, 578.
—— macrocerca, 577.
—— minor, 577.
—— mouhoti, 95, 664.
—— pyrrhops, 24, 95.
—— waldeni, 579.
—— wallacei, 95, 664.
Budytes, (1872) 129, 130, 166, (1875) 360.
—— calcaratus, 55, 95.
—— citreola, 55, 96.
—— citreolides, 55, 56.
—— sheltobriuschka, 56.
—— viridis, (1872) 116, 166, 167, (1873) 24~~3~~1, (1875) 360, 411, (1877) 522, (1878) 623, 641, (App.) 658. 2
buffoni (Psittacus), 134.
Bulaca, 132, 296.

bullockoides (Melittophagus), 209.
—— (Merops), 209.
Buphus bacchus, 197.
—— coromandus, 660.
burbidgei (Tanygnathus), 655.
Burhinus, 190.
burmanica (Pelargopsis), 260, 435.
Butalis, 348.
—— ferruginea, 432.
—— griseisticta, 348, 519.
—— grisola, 348, 519.
—— hypogrammica, 168.
—— latirostris, (1873) 242, (1875) 348, (1878) 586, 590, (App.) 657.
—— manillensis, (1875) 348, 411, (1877) 519, (App.) 657.
Butastur, 2, 310.
—— fasciatus, 2, 664.
—— indicus, (1845) 2, (1875) 310, 410, (1877) 515, 531, 607, 621, (App.) 655, 664.
—— liventer, 419.
—— teesa, 426.
Buteo fasciatus, 2.
—— holospilus, 309.
—— poliogenys, 141.
—— pygmæus, 141.
—— pyrrhogenys, 140.
Butorides, 130, 199, 400.
—— chloriceps, 200.
—— javanica, (1872) 121, 199, (1873) 251, (1875) 413, (1877) 504, 528, 542, 560, (1878) 573, 602, 619, (App.) 660.
buxtoni (Brachypteryx), 438, 493, 663.

Cacatua, (1872) 129, 133, 134, (1875) 295, 299, 300, (App.) 655.
—— æquatorialis, 134.
—— hæmaturopygia, (1872) 116, (1875) 299, 410, (1877) 529, 530, 544, (1878) 566, 587, 595, 602, 628.
—— minor, 299.
—— philippinarum, 116.
—— sulphurea, 134.
Caccabis rufa, 200.
Cacomantis, (1872) 129, 156, 213, (1875) 326.
—— assimilis, 157.
—— borneensis, 156.
—— bronzinus, 157.
—— castaneiventris, 157.
—— castaneus, 428.
Cacomantis dumetorum, 157.
—— fasciolatus, 157.
—— flabelliformis, 157.
—— flavus, 65, 156.
—— infaustus, 157.
—— infuscatus, 157.
—— insperatus, 157.
—— lanceolatus, 156, 158.
—— merulinus, (1869) 65, (1872) 156, 157, 158, (1875) 326, 410, (1876) 428, (1877) 516, (1878) 608, 621, 636, 647, (App.) 656.
—— pallidus, 157.
—— passerinus, 59, 156, 157.
—— pravatus, 157.
—— pyrogaster, 157.
—— rufovittatus, 157.
—— sepulchralis, (1872) 157, 213, 214, (1878) 627, 636, (App.) 656.
—— simus, 157.
—— sonneratti, 157.
—— tenuirostris, 156.
—— threnodes, 156, 636.
—— tymbonomus, 157.
cærulea (Coua), 63.
—— (Muscicapa), (1845) 11, (1872) 120, (1875) 347, (1877) 499.
cæruleocephala (Columba), 385.
—— (Muscicapa), 348, 349.
cærulescens (Buchanga), 577, 579.
—— (Ceblepyris), 343.
—— (Dicrurus), (1866) 24, (1867) 50, (1875) 346, (1878) 579.
—— (Falco), 101.
—— (Hierax), 218, 307.
—— (Volvocivora), (1875) 343, 409, 411, (1877) 518, 530, 533, (1878) 589, (App.) 656.
cæruleus (Cuculus), 63.
cæsia (Monacha), 226.
Calamoherpe canturiens, 354.
—— fumigata, 606.
—— orientalis, 359.
—— subflavescens, 606.
Calao plicatus, 482.
calcaratus (Budytes), 55, 95.
calcostetha (Nectarinia), 88.
caledonica (Ardea), 199, 400.
—— (Gazzola), 176.
—— (Streptocitta), 176, 177.
caledonicus (Corvus), 175, 176.

caledonicus (Nycticorax), (1872) 199, 214, (1875) 400, (1877) 542.
Calialcyon, 128, 147, 321.
—— coromanda, (1873) 239, (1875) 321, 322, 410 (1878) 635, (App.) 655.
—— rufa, 147.
calidris (Scolopax), 396.
—— (Totanus), (1872) 196, (1874) 267, (1875) 396, 412, (1878) 645, 651, (App.) 660.
Calliope, 358.
—— camtschatkensis, (1875) 358, 411, (1877) 513, (App.) 657.
calliope (Motacilla), 358.
Callolophus malaccensis, 479, 480.
—— mentalis, 479.
—— puniceus, 479.
Calobates, 360.
—— melanope, (1875) 360, 361, 411, (1877) 461, 462, 470, 495, 523, 535, (1878) 598.
—— sulphurea, 360, 361, 362.
Calœnas, (1872) 129, 132, 186, (1875) 386.
—— nicobarica, (1872) 186, (1875) 386, 412, (App.) 659.
Calorhamphus, 102.
—— hayi, 102.
—— lathami, 102.
calorhynchus (Phœnicophaes), 154, 155, 156.
Calornis, (1871) 111, (1872) 129, 179, 181, 231, (1875) 369, 418.
—— affinis, (1872) 180, (1874) 266, (1875) 418, (App.) 671.
—— albifrons, 368.
—— amboinensis, 180, 181.
—— cantor, 111, 117, 418.
—— cantoroides, 180, 181.
—— chalybea, (1871) 111, (1872) 179, 181, (1877) 501, (1878) 617.
—— crassirostris, 180, 181, 664.
—— daurica, 369.
—— gularis, 181.
—— irwini, 418.
—— kittlitzi, 180.
—— metallica, (1872) 179, 180, 181, 205.
—— minor, 181.
—— mysolensis, 180.
—— neglecta, (1872) 179, 180, 181, 211, (1875) 369, (App.) 664.
—— nitida, 181.
—— obscura, 179, 180.
Calornis panayensis, (1871) 111, (1872) 117, 266, (1875) 369, 412, (1877) 460, 462, 473, 537, 558, (1878) 572, 593, 599, 617, 623, 642, 650, (App.) 658.
—— purpurascens, 180, 181.
—— tytleri, 418.
—— virescens, 181.
—— viridescens, 181.
calthropæ (Palæornis), 280, 281, 305.
calva (Gracula), 120, 121, 369.
—— (Merula), 121, 369.
calvus (Corvus), 121.
—— (Gymnocephalus), 121.
—— (Gymnops), 120, 370.
—— (Otogyps), 424.
—— (Sarcops), (1875) 369, 412, (1877) 524, 558, (1878) 572, 593, 599, 642, 650, (App.) 658.
Calyptomena, 132, 296.
—— caudacuta, 223.
—— rafflesia, 223.
—— viridis, 223, 499.
Campephaga, 170, 358.
—— nigra, 170.
camtschatkensis (Calliope), (1875) 358, 411, (1877) 513, (App.) 657.
—— (Turdus), 359.
candida (Scelostrix), (1875) 312, 410, (1877) 531, (App.) 655.
—— (Strix), 312, 313.
candidissima (Ardea), 399.
canente (Hemicercus), 427.
canescens (Totanus), 650.
canicapillus (Picus), 17.
—— (Yungipicus), 17.
caniceps (Carduelis), 53.
—— (Megalæma), 94.
—— (Palæornis), 285.
—— (Phœnicophaes), 478.
—— (Rhipidura), 347.
—— (Tricophorus), 107.
canoroides (Cuculus), 213.
canorus (Cuculus), (1869) 59, 62, 63, 64, (1872) 213.
cantatrix (Muscicapa), 214, 610.
cantiana (Ægialitis), (1872) 190, (1877) 544, 560, (1878) 619, 624, (App.) 659.
cantianus (Charadrius), 560, 619.
cantillans (Certhia), 230.
cantor (Calornis), 111, 117, 418.
—— (Lamprotornis), 180.

cantor (Turdus), 180, 369.
cantori (Criniger), 107.
cantoroides (Calornis), 180, 181.
canturiens (Calamoherpe), 354.
—— (Herbivox), 354.
capellii (Columba), 502.
capensis (Alcedo), 30.
—— (Cuculus), 64, 328.
—— (Halcyon), 30, 260.
—— (Psittacus), 305.
—— (Rallus), 541.
—— (Rhynchæa), (1875) 398, 413, (1877) 461, 475, 514, 528, 560, (1878) 601, 644, (App.) 660.
—— (Scolopax), 398, 475.
—— (Scops), 3.
capitalis (Mixornis), (1877) 563, (1878) 566, 569, 573, 574, 598, 603, 649, (App.) 657, 667.
Capito flavicollis, 323.
—— lineatus, 324.
—— rosaceicollis, 324.
caprata (Motacilla), 357.
—— (Pratincola), (1872) 165, (1875) 357, 411, (1877) 521, 535, (1878) 622, (App.) 657.
Caprimulgus, 13, 212, 326.
—— affinis, 212, 326, 516.
—— albinotatus, 326.
—— arundinaceus, 213.
—— asiaticus, 434.
—— binotatus, 213.
—— europæus, 212.
—— griseatus, (1875) 326, 410, (1877) 513, 516, (App.) 656.
—— jotaka, 257.
—— macrotis, 325.
—— macrurus, (1872) 212, 213, (1874) 257, (1875) 326.
—— mahrattensis, 434.
—— manillensis, (1875) 326, 410, (1878) 635, 647, (App.) 656.
—— monticola, 212, 326.
—— nigripennis, 326.
—— pulcher, 12, 223, 664.
—— schlegeli, 326.
cara (Æthopyga), 429, 430.
Carbo lucidus, 408.
—— sinensis, 408.
Carcineutes, 104.
—— pulchellus, 104, 484.
cardinalis (Picus), 315.
Carduelis, 53.
—— caniceps, 53.
carinatus (Buceros), 5.
carlotta (Chrysocolaptes), 118.
carola (Carpophaga), 380.
—— (Ptilocolpa), 380.
Carpophaga, (1872) 129, 183, (1873) 246, (1875) 378, (1878) 628, 643.
—— ænea, (1873) 245, (1875) 378, 379, 380, 412, (1877) 538, 559, (1878) 573, 594, 599, 618, 643, 650, (App.) 659.
—— bicolor, 184.
—— carola, 380.
—— casta, 381.
—— chalybura, 379, 380.
—— griseipectus, 380.
—— insularis, 379.
—— luctuosa, 184.
—— metallica, 381.
—— neglecta, 380.
—— palumboides, 246.
—— paulina, 289, 379.
—— pectoralis, 380.
—— perspicillata, 379, 380.
—— pickeringi, 379, 659.
—— poliocephala, 381.
—— pulchella, 288, 664.
—— pusilla, 378.
—— sylvatica, 379.
cassidix (Buceros), 150.
—— (Craniorrhinus), 150, 151, 152.
casta (Carpophaga), 381.
castaneiceps (Orthotomus), (1872) 234, (1875) 360, 411, (1877) 460, 470, (1878) 592, (App.) 658, 668.
castaneicollis (Petrocincla), 55.
castaneiventris (Cacomantis), 157.
—— (Cuculus), 157.
—— (Sitta), 429.
castaneus (Batrachostomus), (1877) 440, 443, 444, 506, 507, 508.
—— (Cacomantis), 428.
—— (Cuculus), 428.
—— (Merops), 317.
—— (Tantalus), 200.
castanopterus (Oriolus), 228.
castanotus (Hypotriorchis), 233.
Casuarius, 133.
caudacuta (Acanthylis), 434.
—— (Calyptomena), 223.

caudata (Gracula), 354, 520.
—— (Pnoepyga), 292, 432.
caudatus (Cossyphus), 354.
—— (Crateropus), (1875) 354, 411, (1877) 512, 513, (App.) 653.
—— (Rallus), 394.
cayanus (Cuculus), 62, 63, 64.
Ceblepyris aterrima, 342.
—— cærulescens, 342.
—— culminata, 10, 496, 664.
—— fimbriata, 170.
—— humeralis, 342.
—— lineata, 342, 343.
—— luctuosa, 345.
—— lugubris, 170.
—— novæ-guineæ, 496.
—— plumbea, 340.
—— sumatrensis, 342, 496, 609.
—— tricolor, 342.
Cecropis, 349.
—— daurica, 349, 411.
celebense (Trichostoma), (1872) 163, 210, (1876) 435, 436.
celebensis (Artamus), 627.
—— (Basilornis), 178.
—— (Brachyurus), 164.
—— (Broderipus), 210, 241.
—— (Chætura), 149.
—— (Erythropitta), 164.
—— (Hypotænidia), 194.
—— (Pernis), 140, 208, 478.
—— (Pyrrhocentor), 158.
celebicum (Dicæum), 173.
Centrococcyx, (1872) 128, 158, 159, 221, (1875) 329.
—— affinis, (1872) 158, 159, 160, 162, 210, 517.
—— andamanensis, 240.
—— bengalensis, 159, 161, 162.
—— borneensis, 159.
—— bubutus, 159, 221.
—— chlororhynchus, 159, 330.
—— dimidiatus, 159, 161.
—— eurycercus, 159, 221, 609, (App.) 656.
—— javanensis, (1872) 159, 160, 162, 210, 221, (1875) 330, (1877) 517.
—— javanica, 221.
—— lepidus, 159.
—— lignator, 159.
—— medius, 159, 160, 162.
—— moluccensis, 159, 160, 162.
Centrococcyx philippinensis, 221.
—— rectunguis, (1872) 158, 159, 160, 162.
—— rufipennis, 159, 160, 221.
—— sinensis, 159.
—— viridis, (1872) 159, 160, 161, (1875) 329, 411, (1877) 460, 467, 517, 532, 550, 589, 597, 622, 637, (App.) 656.
Centropus, (1869) 61, 65, 70, (1872) 158, (1876) 428.
—— ægyptius, 65.
—— affinis, 159, 161.
—— andamanensis, 240.
—— ateralbus, 158.
—— bengalensis, 64, 159, 161.
—— bicolor, 158.
—— borneensis, 159, 221.
—— bubutus, 159.
—— chlororhynchus, 70, 159.
—— dimidiatus, 159.
—— eurycercus, (1872) 159, (1877) 479, (1878) 609, (App.) 671.
—— grilli, 61.
—— intermedius, 428.
—— javanensis, 159, 160.
—— lepidus, 159, 160, 162.
—— lignator, 159, 161.
—— medius, 158, 159.
—— melanops, 158, 330.
—— molkenboeri, 161, 329.
—— moluccensis, 159.
—— nigrifrons, 158, 330.
—— phasianus, 159.
—— philippensis, 160.
—— pumilus, 160, 162.
—— pygmæus, 161.
—— rectunguis, (1869) 61, (1872) 158, 159, 160.
—— rufinus, 161.
—— rufipennis, (1869) 70, (1872) 158, 159, 160.
—— senegalensis, 63.
—— sinensis, 159.
—— tolu, 65.
—— viridis, (1869) 61, 65, (1872) 159, 161.
cephalomelas (Lanius), 50, 51, 335.
Cephalopyrus flammiceps, 671.
ceramensis (Cuculus), 68.
Cerchneis, 137.
Cercotrichas, 358.
Certhia, 52, 77.
—— affinis, 87, 88.
—— amboinensis, 91, 93.

Certhia asiatica, 74.
—— aurantia, 88.
—— brasiliana, (1866) 20, 21, (1870) 83, 93, (1877) 489.
—— cantillans, 230.
—— chalybea, 87.
—— chrysoptera, 72, 74.
—— cirrhata, 72, 73.
—— citrinella, 84.
—— coccinea, 22.
—— crocata, 88.
—— cruentata, 22.
—— currucaria, (1870) 73, 77, 84, 92.
—— discolor, 428.
—— dubia, 84.
—— falcata, 74, 93.
—— famosa, 77.
—— flaviventris, 84.
—— goalpariensis, 80.
—— grisea, 90.
—— gularis, 76, 78.
—— indica, 91, 93.
—— jugularis, (1866) 20, (1870) 76, 77, 87, 92, (1875) 365, (1877) 472.
—— lepida, 83, 90, 91.
—— longirostra, 487, 488.
—— lotenia, 20, 92, 93.
—— macassariensis, 91, 93.
—— mahrattensis, 72, 74.
—— malaccensis, 21, 489, 616.
—— manillensis, 88, 93, 365.
—— nitens, 72.
—— notata, 74.
—— omnicolor, 74, 93.
—— parietum, 90.
—— philippensis, 73, 77, 365.
—— philippina, 73, 77.
—— polita, 74.
—— pulchella, 77.
—— purpurata, 74.
—— pusilla, 91, 92.
—— quadricolor, 76.
—— rectirostris, 490.
—— rubra, 126.
—— saccharina, 72.
—— siparaja, 104, 105, 488.
—— souimanga, 88.
—— sperata, (1870) 77, 78, 86, 87, 88, 92, 93, (1875) 364, (1877) 489.
—— strigula, 74.
Certhia tæniata, 90.
—— tricolor, 76.
—— trigonostigma, 22, 489.
—— violacea, 77, 88.
—— zeylonica, (1870) 77, 84, 87, 92, 93.
cerviniceps, 209.
cervinus (Anthus), 263.
Ceycopsis, 130, 148.
—— fallax, 148, 209.
ceylonensis (Copsychus), 110.
—— (Dissemurus), 576, 581, 582.
—— (Eclectus), 305.
—— (Eudynamis), 66.
—— (Ketupa), 426.
—— (Limnaetus), 255, 308.
—— (Oriolus), 27, 261.
Ceyx, (1872) 128, 132, 223, (1875) 320.
—— argentata, (1877) 549, 561, (1878) 566, 567, 596, 634, (App.) 655, 664.
—— cyanopectus, 319.
—— dillwynni, 223.
—— innominata, 485.
—— luzoniensis, 320.
—— melanura, 320, 410, 655.
—— philippinensis, (1875) 320, 322, 410, (App.) 654, 655.
—— rufidorsa, 485.
—— sharpii, 223.
—— tridactyla, (1872) 223, (1874) 261, (1875) 320, 321, 410, (App.) 655.
Chætura celebensis, 149.
—— gigantea, 149.
—— picina, (1878) 627, 635, 656, (App.) 664.
Chalcites smaragdinus, 63.
chalcites (Cuculus), 637.
chalcocephalus (Ixus), 37.
Chalcococcyx, 132, 327.
—— amethystinus, 327, 410, 656.
—— basalis, 656.
—— malayanus, 636.
Chalcoparia, 21, 132, 296.
—— phœnicotis, 430, 490.
—— singalensis, 91, 93.
Chalcophaps, (1872) 129, 185, (1875) 384, 385.
—— augusta, 385.
—— bornensis, 385.
—— chrysochlora, 385.
—— cyaneopileata, 385.
—— formosana, 385.

Chalcophaps hombroni, 185.
—— indica, (1872) 186, 211, (1873) 246, (1875) 384, 385, 412, (1877) 503, 525, 538, 559, (1878) 594, 644, 651, (App.) 659.
—— javanicoides, 385.
—— moluccensis, 385.
—— stephani, 185, 186, 211.
—— timorensis, 385.
chalcopogon (Æthopyga), 81.
Chalcostetha, (1870) 71, 86, 88, 91, (1872) 129, 172.
—— aspasia, 89.
—— aspasioides, 89.
—— auriceps, 89.
—— insignis, (1870) 71, 88, 89, 92, (1877) 489, (App.) 658.
—— manillensis, 89, 93.
—— pectoralis, 88.
—— porphyrolæma, 87, 89, 172.
—— proserpina, 88, 89.
chalybea (Calornis), (1871) 111, (1872) 179, 181, (1877) 501, (1878) 617.
—— (Certhia), 87.
chalybeus (Turdus), 111, 180, 501.
chalybura (Carpophaga), 379, 380.
Chaptia, (1872) 132, (1875) 296, (1878) 575, 577, 581.
—— ænea, (1845) 13, (1866) 23, (1878) 577, 581.
—— brauniana, 577.
—— malayensis, 498, 597, 671.
Charadrius, (1871) 130, (1872) 188, (1873) 248, (1875) 389, (1877) 503.
—— alexandrinus, 188, 390.
—— autumnalis, 390.
—— cantianus, 560, 619.
—— cristatus, 388.
—— curonicus, 189, 390.
—— dubius, 390.
—— fulvus, (1872) 122, 188, (1873) 248, (1875) 389, 412, (1877) 461, 462, 474, 503, 526, 540, 559, (1878) 600, 623, 628, (App.) 659.
—— geoffroyi, 390, 503.
—— giganteus, 190.
—— helveticus, 389.
—— intermedius, 189.
—— longipes, 389.
—— magnirostris, 190, 191.
—— minor, 189, 248, 390.
—— minutus, 189.
—— mongolus, 390.
—— peronii, 600, 624.
Charadrius philippinus, 188, 390.
—— pluvialis, 389, 503.
—— pusillus, 189.
Charitornis, 177.
—— albertinæ, 177.
Charmosyna, 133.
chataræa (Timelia), 520.
chatarrhæa (Timelia), 354.
cheela (Falco), 218.
—— (Hæmatornis), 236.
—— (Spilornis), (1872) 218, 219, (1873) 236, 237.
Chelidon urbica, 434.
Chibia, 171, 576.
—— brevirostris, 577.
—— hottentota, (1876) 432, (1878) 576, 577, 609.
chinensis (Broderipus), 119, 241.
—— (Columba), 383.
—— (Enicurus), 494.
—— (Eudynamis), 61, 67.
—— (Excalfactoria), (1872) 123, 187, (1875) 387, 412, (App.) 659.
—— (Garrulax), 26.
—— (Lanius), 26, 336.
—— (Oriolus), 493, 534, 553.
—— (Tetrao), 387.
—— (Turtur), 185.
chirurgus (Hydrophasianus), 394, 412, (App.) 660.
—— (Tringa), 395.
chloriceps (Butorides), 200.
chlorigaster (Anthothreptes), (1877) 530, 537, 557, (1878) 593, 642, 650.
—— (Anthreptes), (1877) 537, (1878) 593, 642, 650, (App.) 658.
chloris (Alcedo), (1866) 31, (1875) 322, (1877) 465, 484.
—— (Halcyon), 116, 147, 322.
—— (Iora), 227.
—— (Mixornis), 24, 25.
—— (Sauropatis), (1872) 119, 147, (1873) 238, (1875) 322, 410, (1877) 460, 462, 465, 484, 516, 531, 549, (1878) 567, 588, 596, 621, 628, 647, (App.) 655.
chlorocephala (Alcedo), 31, 321, 484.
chlorocephalus (Phyllornis), 98, 431, 669.
Chlorœnas amethystina, 378.
—— leucotis, 378.
chlorophæa (Rhinortha), 63, 478.
chlorophæus (Cuculus), 478.
Chloropsis mystacalis, 106.
—— zosterops, 491.

chloroptera (Myzomela), 125, 214, 668.
—— (Osmotreron), 246.
—— (Treron), 376.
chloropus (Fulica), 391.
—— (Gallinula), (1872) 193, (1875) 391, 412, (1877), 527, 540, (1878) 600, 644, (App.) 659.
chlororhyncha (Platalea), 403.
chlororhynchus (Centrococcyx), 159, 330.
—— (Centropus), 70, 159.
chocolatina (Pnoepyga), 292, 669.
Choucalcyon, 133.
christinæ (Æthopyga), 83.
chrysea (Abrornis), 661, 663.
chrysochlora (Chalcophaps), 385.
—— (Columba), 385.
chrysochlore (Dicæum), 230.
Chrysococcyx hodgsoni, 63.
—— limborgi, 437, 664.
—— maculatus, 428.
—— schomburgki, 428.
—— smaragdinus, 63.
—— xanthorhynchus, (1874) 261, (1876) 428, (1877) 438, 478.
Chrysocolaptes, (1872) 119, 132, 133, (1875) 314, 1877 464.
—— carlotta, 118.
—— erythrocephalus, 607, 655.
—— hæmatribon, (1872) 118, (1875) 299, 314, 410, (1877) 463, 464, 515, (App.) 655.
—— lucidus, (1875) 314, 410, (1877) 461, 462, 463, 464, 513, 548, (1878) 603, 633, (App.) 655.
—— maculiceps, (1877) 463, 464, 513, (1878) 633.
—— stricklandi, 464.
—— xanthocephalus, (1872) 118, (1875) 299, 314, 410, (1877) 463, 464, 515, (App.) 655, 664.
chrysogenys (Arachnothera), 488.
—— (Nectarinia), 488.
chrysolaus (Turdus), (1871) 106, (1875) 351, 411, (1878) 605, (App.) 657.
Chrysonotus biddulphi, 427.
chrysonotus (Loriculus), (1875) 299, 304, 410, (1877) 463, 530, 547, (App.) 655.
Chrysophlegma, 132, 296.
—— malaccensis, 103.
chrysopogon (Bucco), 487.
—— (Megalæma), 487.
chrysoptera (Certhia), 72, 74.
chrysorrhœum (Dicæum), 230, 430, 431.
chrysorrhoides (Ixus), 272.
Chrysostomus, 20.
cia (Emberiza), 55.
Cinclus, 52.
—— asiaticus, 54.
cineracea (Buchanga), 578, 610, 664.
cineraceus (Dicrurus), (1866) 23, 24, (1870) 94, (1878) 578.
—— (Edolius), 498.
—— (Eurycercus), 288, 665.
—— (Orthotomus), 496.
cinerea (Columba), 383, 384.
—— (Fulica), 392.
—— (Gallicrex), (1873) 248, (1875) 392, 412, (1878) 644, (App.) 659.
—— (Iole), 671.
—— (Ortygometra), (1872) 193, (1875) 392, 412, (1877) 540, (1878) 573, 600, 644, (App.) 659.
—— (Scolopax), 624.
—— (Terekia), 621, 624, 660.
cinereiceps (Drymocataphus), (1878) 607, 612, (App.) 657, 665.
—— (Orthotomus), 554, 641, 658.
cinereifrons (Brachypus), (1878) 607, 612, 657, (App.) 663.
cinereigulare (Dicæum), (1877) 543, 555, (1878) 641, (App.) 658, 665.
cinereo-alba (Muscicapa), 242.
cinereocapilla (Myalestes), 168.
—— (Prinia), 28.
cinereus (Acridotheres), 178, 206.
—— (Parus), 56, 490.
—— (Pericrocotus), (1875) 299, 345, 411, (App.) 656.
—— (Porphyrio), 123, 194, 392.
cingalensis (Sylvia), 51.
cingulata (Psittacula), 305.
cingulatus (Psittacus), 304.
cinnamomea (Ardea), 399.
—— (Ardetta), (1872) 198, (1875) 398, 413, (1877) 513, 528, (1878) 601, 644, (App.) 660.
—— (Columba), 377.
cinnamomeiventris (Sitta), 429.
cinnamomeus (Passer), 93, 668.
—— (Trogon), 101.
—— (Zeocephus), 611, 657.
Cinnyris, 615.
—— æneus, 74.
—— asiaticus, 615.
—— aspasia, 88.

Cinnyris assamensis, 83.
—— aurora, 658.
—— brevirostris, 615.
—— clementiæ, 78.
—— concolor, 80.
—— currucaria, 73.
—— cyaneus, 73.
—— elegans, 490.
—— epauletta, 73.
—— epimecurus, 83.
—— eques, 92, 665.
—— flammaxillaris, 615.
—— frenata, 20, 615.
—— gouldiæ, 82.
—— iodeus, 72.
—— javanica, 90.
—— jugularis, 615, 658.
—— juliæ, 641, 658.
—— labecula, 80.
—— lepida, 84, 90.
—— leucogaster, 72, 91.
—— lotenia, 615.
—— luteiventris, 75.
—— mackloti, 88.
—— magna, 18.
—— miles, 19.
—— nigro-albus, 84.
—— orientalis, 73.
—— ornatus, 75.
—— osea, 71, 615.
—— pectoralis, 615.
—— proserpina, 88.
—— purpuratus, 74.
—— pusillus, 84.
—— rhizophoræ, 615.
—— ruber, 86, 489.
—— rubricaudata, 82.
—— ruficollis, 90.
—— saccharina, 72.
—— sericeus, 89.
—— sola, 84.
—— solaris, 84, 615.
—— speratus, 556, 658.
—— strigula, 73, 74.
—— subflavus, 92.
—— thoracicus, 92.
—— zenobia, 615.
—— zeylonica, 77.
Circaetus holospilus, 309.
circia (Querquedula), 200.
circoleps (Gallinula), 394.
Circus, 129, 141, 310.
—— æruginosus, (1875) 311, 410, (1877) 512, (App.) 653.
—— approximans, 141.
—— assimilis, 141.
—— gouldi, 141.
—— jardinii, 141.
—— macropterus, 141.
—— maurus, 117.
—— melanoleucus, (1872) 117, (1875) 310, 410, (App.) 654, 655.
—— spilonotus, (1875) 311, 410, (1877) 512, (App.), 655.
—— swainsoni, 426.
—— wolfi, 141.
cirrhata (Certhia), 72, 73.
cirrhatus (Limnaetus), 255.
—— (Spizaetus), 138.
Cissa, 132, 296.
Cisticola, (1872) 129, 166, (1875) 359, (1878) 591.
—— sp.?, 591.
—— cursitans, (1872) 166, (1878) 621, 622, (App.) 658.
—— grayi, (1872) 127, 214, (1877) 544, 554, (1878) 592, (App.) 654, 658, 664.
—— lineocapilla, 166.
—— ruficeps, 359, 592.
—— ruficollis, 98, 664.
—— schœnicola, 166.
—— semirufa, (1875) 359, 411, (1877) 554, (1878) 592, (App.) 654, 657.
cisticola (Sylvia), 166.
citreola (Budytes), 55, 96.
—— (Motacilla), 95.
citreolides (Budytes), 55, 56.
citrina (Geocichla), 96, 666.
citrinella (Certhia), 84.
—— (Motacilla), 56.
Citta melanocephala, 352.
Cittocincla, 132, 133, 358.
—— luzoniensis, 358, 411, 657.
—— macrura, 494.
—— nigra, 614, 657.
Cittura, 130, 147.
—— cyanotis, 147.
—— sanghirensis, 148.
clementiæ (Cinnyris), 78.
Climacteris, 205.

Climacteris leucophæa, 205.
—— striolata, 365.
coccinea (Certhia), 22.
—— (Erythropitta), 226.
coccineigastra (Nectarinia), 20, 87, 88.
Coccothraustes philippensis, 373.
—— sinensis, 112, 371.
Coccystes, 132, 296.
—— ater, 64.
—— coromandus, (1869) 63, (1878) 627, 637, (App.) 656.
—— glandarius, 63.
—— hypopinarus, 62.
—— jacobinus, 578.
—— melanoleucus, 64.
—— pica, 62.
—— pisanus, 64.
—— serratus, 64.
Coccyzus americanus, 63.
—— delalandii, 62.
—— dominicus, 63.
—— minor, 64.
—— septorum, 64.
cochinchinensis (Turdus), 491.
cochinsinensis (Eos), 205.
—— (Oriolus), 534.
—— (Phyllornis), 106, 107.
Cochlothraustes delalandii, 64.
Cochoa, 419.
cœlestis (Hypothymis), (1877) 564, (1878) 566, 568, (App.) 656, 666.
cœlivox (Alauda), 623.
Cœreba gularis, 76.
collaris (Alcedo), (1866) 31, (1872) 119, 147, (1875), 322.
—— (Alcippe), 287, 663.
—— (Lanius), 122.
—— (Philemon), 205.
—— (Todiramphus), 31.
Collocalia, (1872) 117, 129, 149, (1873) 239, (1874) 259, (1877) 325, (1878) 587, 588, 605.
—— affinis, 239, 259, 260.
—— brevirostris, 239.
—— esculenta, (1872) 149, (1874) 258, 259, 260, (1878) 589.
—— francica, (1872) 149, (1874) 258, 259, (1875) 325, (1876) 434, (1878) 586, 588, 589, (App.) 656.
—— fuciphaga, (1872) 149, (1873) 239, (1874) 258, 259, 260, (1875) 325, (1878) 605, (App.) 656.
—— hypoleuca, 149.
Collocalia inexpectata, 259.
—— innominata, 239, 259.
—— linchi, (1873) 239, (1874) 259, 260, (1875) 325, (1878) 605.
—— nidifica, (1872) 149, (1874) 258, 259, 260, (1876) 434.
—— spodiopygia, 259.
—— troglodytes, (1874) 259, (1875) 325, 410, (1877) 549, (1878) 589, (App.) 656.
—— unicolor, 258.
Collurio erythronotus, 43.
—— hardwicki, 44.
collurio (Lanius), 38, 42.
collurioides (Lanius), 43, 432.
Columba adfinis, 58.
—— ænea, 183, 378.
—— alba, 380.
—— albicapilla, 385.
—— amboinensis, 375.
—— aromatica, 182, 375, 376.
—— augusta, 385.
—— bantamensis, 503.
—— bicolor, 380, 474.
—— cæruleicephala, 385.
—— capellei, 502.
—— chinensis, 383.
—— chrysochlora, 385.
—— cinerea, 383, 384.
—— cinnamomea, 377.
—— cristata, 232.
—— cruenta, 384.
—— curvirostra, 182, 502.
—— cyaneopileata, 385.
—— cyanocephala, 385.
—— diademata, 183.
—— dussumieri, 382.
—— ferruginea, 376.
—— fulvicollis, 375, 376.
—— gigantea, 502.
—— griseicapilla, 385.
—— hypogastra, 183.
—— indica, 384, 385, 503.
—— jambu, 4.
—— javanensis, 384.
—— javanica, 384, 503.
—— javanicoides, 385.
—— leucotis, 378.
—— littoralis, 380.
—— luzonica, 384.

Columba malaccensis, 112.
—— melanocephala, 642.
—— miniata, 383, 384.
—— moluccensis, 378, 385.
—— monacha, 183.
—— nicobarica, 386.
—— nivea, 384.
—— occipitalis, 378.
—— olax, 376, 503.
—— orientalis, 384.
—— paulina, 183.
—— phasianella, 382.
—— phœnicorhyncha, 383.
—— picturata, 383.
—— pileata, 385.
—— pompadora, 376.
—— psittacea, 182.
—— pulcherrima, 385.
—— purpurea, 374.
—— rubricapilla, 385.
—— sanguinea, 384.
—— sinica, 112.
—— striata, 386, 503.
—— superciliaris, 385.
—— sylvatica, 245, 378.
—— tigrina, 503.
—— timorensis, 385.
—— turtur, 384.
—— vernans, 374, 503.
—— viridis, 182, 374.
columbarius (Falco), 137.
columbina (Lamprotornis), 180.
columbinus (Turdus), 180, 369.
columboides (Palæornis), (1874), 270, 271, 282, 283.
Colymbus minor, 406.
—— philippensis, 406.
comatus (Buceros), 4.
—— (Cypselus), 324, 486.
—— (Macropteryx), (1875) 324, 410, (1877) 486, 532, 549, (1878) 635, (App.) 656.
commixtus (Parus), 419.
concolor (Cinnyris), 80.
—— (Cotile), 149, 434.
—— (Cypselus), 258.
—— (Demiegretta), 249, 250.
—— (Herodias), 249.
concreta (Dacelo), 322.
concretus (Graucalus), (1872) 225, (1873) 245, (1875) 342, (1877) 496.
concretus (Hemicercus), 481.
contra (Sturnopastor), 477, 501.
—— (Sturnus), 501.
convexa (Hydrocissa), 3.
Copsychus, (1869) 52, (1871) 110, (1872) 119, 120, 132, 133, (1875) 358, (1877) 494.
—— amœnus, 110, 494.
—— brevirostris, 494.
—— ceylonensis, 110.
—— mindanensis, (1871) 110, (1872) 119, (1875) 358, 409, 411, (1877) 514, 521, 535, 554, (1878) 591, 598, 640, 649, (App.) 657.
—— musicus, 120, 358, 494.
—— pluto, 110, 119.
—— problematicus, 494.
—— saularis, (1866) 27, (1871) 110, (1872) 120, (1873) 242, (1877) 494.
Coracias, (1869) 52, (1872) 129, 134, 146.
—— affinis, 106.
—— indica, 106.
—— orientalis, 319, 464, 531.
—— papuensis, 146.
—— puella, 108.
—— sumatranus, 500.
—— temmincki, 146.
Coracina fasciata, 225, 340.
coracinus (Dicrurus), 576.
corallina (Sitta), 429.
corax (Corvus), 55, 501.
Corethrura, 394.
cornutus (Batrachostomus), (1877) 439, 440, 442, 444, 448, 449, 451, 459, 477, 486.
—— (Cuculus), 58, 64.
—— (Podargus), (1877) 448, 449, 450, 486, 508.
—— (Trogon), 64.
coromanda (Alcedo), 321.
—— (Calialcyon), (1873) 239, (1875) 321, 322, 410, (1878) 635, (App.) 655.
coromandeliana (Anas), 404, 405.
—— (Dacelo), 321.
coromandelianus (Nettapus), 269, 404, 413.
coromandelicus (Halcyon), 104.
coromandus (Bubo), 426.
—— (Bubulcus), (1875) 392, 413, (1878) 619, 625.
—— (Buphus), 660.
—— (Coccystes), (1869) 63, (1878) 627, 637, (App.) 656.
—— (Cuculus), 63, 637.
—— (Halcyon), 104, 147.
coronata (Buceros), 4.

coronata (Perdix), 232.
coronatus (Broderipus), 162, 210, 241.
—— (Cryptonyx), 232.
—— (Oriolus), 477, 493.
—— (Orthotomus), 417.
corone (Corvus), 175.
corrugatus (Buceros), 153.
corvinus (Bucco), 18.
Corvus, (1869) 52, (1872) 129, 175, 176, (1875) 365, (1877) 501.
—— adsimilis, 346.
—— advena, 175, 176.
—— afer, 346.
—— annectens, 501.
—— balicassius, (1866) 24, (1872) 171, (1875), 345, 346.
—— brachyurus, 353.
—— brevipennis, 365, 472, 524.
—— caledonicus, 175, 176.
—— calvus, 121.
—— corax, 55, 501.
—— corone, 175.
—— culminatus, 245, 501, 502.
—— dauricus, 175, 176.
—— enca, (1872) 175, 211, (1875) 366, (1877) 473, 501, (1878) 617.
—— javanensis, 501, 617.
—— levaillanti, 245, 502.
—— macrorhynchus, 501, 502.
—— moneduloides, 175.
—— novæ-guineæ, 340, 342.
—— papuensis, 341, 342.
—— philippensis, 352.
—— philippinus, (1875) 365, 366, 412, (1877) 460, 462, 472, 473, 524, 537, 557, (1878) 572, 593, 599, 604, 623, 642, 650, (App.) 658.
—— pusillus, (1878) 607, 617, 658, (App.) 664.
—— striatus, 340.
—— tenuirostris, 502.
—— tibetanus, 55.
—— timoriensis, 501.
—— tricolor, 121.
—— validissimus, 478, 501.
—— validus (1872) 175, 211, (1875) 366, (1877) 472, 473, 501, 502, (1878) 617.
—— varians, 29, 500.
—— violaceus, 473.
Corydalla, 132, 214, 362.
—— gustavi, 214, 606.
—— hasselti, 363, 495.
Corydalla infuscata, 363.
—— lugubris, (1875) 362, 411, (1876) 460, 462, (1877) 471, 495, 514, 521, 535, 555, (1878) 592, 604, 623, (App.) 658, 664.
—— malayana, 122.
—— malayensis, 495, 555.
—— richardi, 362.
—— rufula, (1866) 28, (1873) 263, (1875) 362, 363, (1877) 555.
—— striolata, 263.
Corydon, 132, 296.
—— sumatranus, 223, 500.
—— temmincki, 223.
corydon (Eurylæmus), 223.
Corydonix maculatus, 161.
—— pyrrhopterus, 161, 329.
Coryllis galgulus, 304.
—— hartlaubi, 303, 545, 547.
—— occipitalis, 303.
—— regulus, 303.
corythaix (Basilornis), 178.
Corythornis cristata, 319.
Cosmeteira, 92.
—— minima, 92, 665.
Cossyphus caudatus, 354.
Cotile concolor, 149, 434.
—— rupestris, 434.
Coturnix excalfactoria, 387.
—— flavipes, 387.
Coua cærulea, 63.
—— cristata, 63.
—— madagascariensis, 64.
Cracticus, 133.
Craniorrhinus, 128, 150, 331.
—— cassidix, 150, 151, 152.
—— leucocephalus, (1875) 331, 409, 411, (1877) 550, (App.) 656.
—— waldeni, 656.
crassirostris (Calornis), 180, 181, 664.
—— (Cuculus), 65, 66.
—— (Enneoctonus), 44.
—— (Eudynamis), 66.
—— (Hierococcyx), (1872) 123, 213, 215, (App.) 666.
—— (Lanius), 44, 45, 46.
—— (Nycticorax), 400, 542.
—— (Otomela), 44.
—— (Pernis), 140, 310.
—— (Tringa), 267, 268.

Crateropus, 354.
—— caudatus, (1875) 354, 411, (1877) 512, 513, (App.) 653.
crawfurdi (Picus), 103.
—— (Thriponax), 313.
crepidata (Lestris), 405.
Crex pygmæa, 392.
Criniger, (1872) 124, 128, 132, 133, (1875) 296, (1877) 554, (1878) 583.
—— aureus, 126, 207, 665.
—— cantori, 107.
—— everetti, (1877) 543, 553, 563, (1878) 570, 604, (App.) 657, 665.
—— frater, 613, 657.
—— gularis, 107, 356.
—— longirostris, 126.
—— palawanensis, (1878) 607, 613, (App.) 657, 665.
—— phæocephalus, 107, 491.
—— sericea, 229.
—— splendens, 432.
criniger (Brachypodius), 492.
—— (Brachypus), 228, 229, 671.
—— (Irena), 583.
—— (Pampusanna), 559.
—— (Setornis), 218, 228, 229.
—— (Tricholestes), 492.
crinigera (Phlegœnas), 544, 559, 643.
crinitus (Batrachostomus), 441, 442.
crispiceps (Tricophorus), 230.
crispifrons (Turdinus), 433.
cristata (Columba), 232.
—— (Corythornis), 319.
—— (Coua), 63.
—— (Fulica), 392.
—— (Gallinula), 248, 392.
—— (Otomela), 39.
—— (Parra), 192.
—— (Pernis), 140.
—— (Platalea), 403.
—— (Sparactes), 272.
—— (Tchitrea), 122.
cristatella (Gracula), 366, 367.
cristatellus (Acridotheres), (1875) 366, 367, 412, (1877) 524, (App.) 658.
—— (Dissemurus), 582.
—— (Limnaetus), 425.
—— (Nisaetus), 1.
—— (Pastor), 367.
—— (Spizaetus), 138.
cristatus (Astur), 307.
cristatus (Buceros), 330.
—— (Charadrius), 388.
—— (Cuculus), 63.
—— (Dicrurus), 580.
—— (Enneoctonus), 39.
—— (Gallicrex), 392.
—— (Lanius), (1867) 38, 39, 40, 43, 45, 46, 47, 48, (1869) 55, (1871) 109, (1875) 337, 338, 339.
—— (Pelecanopus), 203.
—— (Phasianus), 232.
—— (Regulus), 55.
Crithagra sulphurata, 116.
crocata (Certhia), 88.
croceoventre (Dicæum), 230, 489.
Crotophaga, 60, 64.
—— ambulatoria, 58, 64.
—— ani, 58, 64.
—— major, 65.
cruenta (Columba), 384.
—— (Phlegœnas), 133, 559.
cruentata (Certhia), 22.
cruentatum (Dicæum), 22, 116, 430.
cruentus (Accipiter), 13, 138.
—— (Astur), 138.
—— (Nisus), 138.
Crypsirhina, 132, 296, 419.
—— varians, (1866) 29, (1872) 217, (1875) 419, (1877 477, 500.
Cryptonyx coronatus, 232.
—— sp.?, 388.
cucullata (Melanopitta), 640.
cucullatus (Eurylæmus), 224.
cuculoides (Falco), 138.
Cuculus, (1869) 57, 60, 63, 64, (1872) 213, (1875) 328.
—— adfinis, 58.
—— adsimilis, 577.
—— ægyptius, 65, 329.
—— æneus, 64, 65.
—— afer, 64, 65.
—— affinis, 671.
—— albipunctatus, 222.
—— ambulatorius, 64.
—— americanus, 58, 63.
—— ani, 64.
—— assimilis, 157.
—— ater, 64.
—— auratus, 65.
—— basalis, 636.
—— bengalensis, 61, 64.
—— borneensis, 156.

Cuculus brasiliensis, 58, 63.
—— bronzinus, 157.
—— bubulus, 479.
—— bubutus, 221.
—— cæruleus, 63.
—— canoroides, 213.
—— canorus, (1869) 59, 62, 63, 64, (1872) 213.
—— capensis, 64, 328.
—— castaneiventris, 157.
—— castaneus, 428.
—— cayanus, 62, 63, 64.
—— ceramensis, 68.
—— chalcites, 637.
—— chlorophæus, 478.
—— cornutus, 58, 64.
—— coromandus, 63, 637.
—— crassirostris, 65, 66.
—— cristatus, 63.
—— cupreus, 65.
—— decorus, 329.
—— discolor, 64.
—— dominicensis, 58.
—— dominicus, (1869) 58, 62, 63, 64.
—— dumetorum, 157.
—— fasciolatus, 157, 222.
—— flabelliformis, 157.
—— flaviventris, 65, 328.
—— flavus, (1869) 61, 65, (1872) 156, (1875) 326.
—— fucatus, 656.
—— fugax, 479.
—— gigas, 62, 64.
—— glandarius, 59, 63, 64.
—— guira, 64.
—— himalayanus, 213.
—— honoratus, 58, 63, 239.
—— hyperythrus, 327, 637.
—— indicator, 65.
—— indicus, 58, 65.
—— infaustus, 157.
—— infuscatus, 157.
—— insperatus, 157.
—— jacobinus, 61, 64.
—— lucidus, 61, 65.
—— lugubris, 478, 608.
—— maculatus, (1869) 61, 64, 66, 67, (1876) 428.
—— madagascariensis, 62, 64.
—— malayanus, 636.
—— melanogaster, 62.
—— melanognathus, 102, 478.
Cuculus melanoleucus, 61, 64.
—— melanorhynchus, 65.
—— merulinus, (1869) 65, (1872) 156, 157, 158, (1875) 326, (1877) 428.
—— mexicanus, 62, 64.
—— micropterus, 213, 240, 428.
—— mindanensis, (1869) 58, 60, 63, 64, (1875) 328, (1877) 467.
—— minor, 64.
—— nævius, 62, 63, 64.
—— niger, (1869) 58, 59, 63, 64, 65.
—— orientalis, (1869) 58, 60, 61, 63, 64, 65, 67, 68, 69.
—— pallidus, 157.
—— panayanus, (1869) 61, 64, 66, (1875) 328.
—— paradiseus, 23, 64.
—— passerinus, 156, 157.
—— persa, 58, 59, 63.
—— philippensis, 65, 329.
—— pisanus, 64.
—— pluvialis, 64.
—— præsagus, 154.
—— pravatus, 157.
—— punctatus, (1869) 58, 60, 63, 67, 68, 69.
—— punctulatus, 62, 64.
—— pyrrhocephalus, 64, 155.
—— pyrrhogaster, 157.
—— radiatus, 61, 65, 328.
—— ridibundus, 62, 64.
—— rufovittatus, 157, 222.
—— saturatus, 213.
—— schomburgki, 428.
—— scolopaceus, (1869) 58, 59, 63, 65.
—— senegalensis, 63, 65.
—— seniculus, 64.
—— septorum, 62.
—— sepulchralis, 157, 636.
—— serratus, 61, 64.
—— simus, 157.
—— sinensis, 63.
—— solitarius, 328.
—— sonnerati, 157.
—— sparverioides, 428.
—— striatus, 428.
—— sumatranus, 156.
—— tahitius, 64.
—— taitiensis, 70.
—— tenebrosus, 64.
—— tenuirostris, 18, 59, 156.
—— threnodes, 156.

Cuculus tolu, 65, 160.
—— toulou, 65.
—— tranquillus, 64.
—— tymbonomus, 157.
—— variegatus, 66, 328.
—— vetula, 63.
—— viridis, 65, 329, 467.
—— xanthorhynchus, 327, 428, 478.
culacissi (Psittacula), 303.
culminata (Ceblepyris), 10, 496, 664.
—— (Volvocivora), 496.
culminatus (Corvus), 245, 501, 502.
cumingi (Dasylophus), 295.
—— (Lepidogrammus), (1875) 329, 411, (1877) 517, (App.) 656.
—— (Megapodius), (1872) 133, (1875) 388, 412, (1877) 539, 540, (1878) 619, (App.) 659.
—— (Phœnicophaes), 329.
Cuncuma, 129, 139, 309.
—— leucogaster, (1872) 117, 139, (1875) 309, 410, (App.) 655.
cupreus (Cuculus), 65.
—— (Lamprococcyx), 65.
curonica (Ægialitis), 189, 248, 526.
curonicus (Charadrius), 189, 390.
currucaria (Arachnecthra), 73.
—— (Certhia), (1870) 73, 77, 84, 92.
—— (Cinnyris), 73.
—— (Nectarophila), 92.
cursitans (Cisticola), (1872) 166, (1878) 621, 622, (App.) 658.
—— (Prinia), 622.
curvirostra (Columba), 182, 502.
—— (Treron), 376.
curvirostris (Phœnicophaes), (1871) 102, (1872) 154, 155, 156, (1876) 428, (1878) 609.
—— (Tetrao), 232.
Cutia nipalensis, 417.
Cyanalcyon, 133.
cyanea (Irena), (1871) 96, 97, 108, (1878) 583.
—— (Larvivora), 90.
—— (Muscitrea), 668.
cyaneopileata (Chalcophaps), 385.
—— (Columba), 385.
cyanescens (Zeocephus), 611, 657.
cyaneus (Cinnyris), 73.
—— (Petrocossyphus), 262.
cyaniceps (Muscipeta), 347.
—— (Philentoma), 347, 498, 656.
cyanicollis (Psittacus), 205.
cyanocephala (Alcedo), 485.
—— (Columba), 385.
—— (Eudynamis), (1869) 66, 67, 69, (1875) 321.
—— (Muscicapa), 349.
cyanocephalus (Dacelo), 146.
—— (Palæornis), (1874) 274, 276, 277, (1875) 305.
Cyanoderma erythropterum, 493.
cyanogastra (Irena), (1870) 96, (1875) 293, 355, 411, (1878) 649, (App.) 657.
cyanolæmus (Loriculus), 545.
cyanomelæna (Xanthopygia), 10.
cyanopectus (Alcyone), (1875) 319, 320, 410, (App.) 654, 655.
—— (Ceyx), 319.
cyanopogon (Phyllornis), 106, 107, 491.
Cyanops franklini, 427.
cyanoptera (Pitta), 16, 22.
cyanopygius (Merops), 317, 318, 319.
cyanorrhos (Merops), 316.
cyanota (Geocichla), 96.
cyanotis (Cittura), 147.
Cyclopsitta, 133, 301.
—— loxia, 301, 545.
—— lunulata, (1875) 301, 410, (1877) 511, 545, (1878) 628, (App.) 655.
Cymbirhynchus, 132, 296.
—— lemniscatus, 499.
—— macrorhynchus, 434, 499, 648.
—— malaccensis, 499.
Cyornis, (1872) 128, 167, 215, 216, 226, (1875) 347, (1877) 513, 519.
—— banyumas, (1872) 214, 215, 216, (1875) 347, 411, (1877) 513, 519, 533, (1878) 610, (App.) 656.
—— elegans, 226, 499.
—— jerdoni, 215, 216.
—— philippinensis, (1875) 347, 411, (1877) 513, 519, 533, 552, (1878) 568, 590, 597, 639, (App.) 656.
—— rubeculoides, 226, 432.
—— rufigula, 167, 206.
—— tickelliæ, 215, 216.
—— unicolor, 94, 432.
Cypselus comatus, 324, 486.
—— concolor, 258.
—— pacificus, 434.
—— unicolor, 258.
—— vittatus, 434.
Cyrtes, 358.
Cyrtostomus, 615.
—— andamanicus, 615.

Cyrtostomus asiaticus, 615.
—— aurora, 607, 615, 665.
—— brevirostris, 615.
—— flammaxillaris, 615.
—— frenatus, 615.
—— jugularis, 615, 642, 650.
—— lotenia, 615.
—— pectoralis, 615.
—— rhizophoræ, 615.
—— solaris, 615, 616.
—— zenobia, 615.

dabrii (Æthopyga), 82, 419.
Dacelo concreta, 322.
—— coromandeliana, 321.
—— cyanocephala, 146.
—— lessoni, 322.
—— lindsayi, 322.
—— monacha, 146.
—— pulchella, 104, 484.
Dædalion soloensis, 308.
dalhousiæ (Psarisomus), 418, 434.
damacenis (Totanus), 397.
—— (Tringa), 196.
Daptrius ater, 370.
Dasycrotopha, 574, 665.
—— speciosa, (1878) 574, 586, 587, 591, (App.) 657, 665.
Dasylophus, 298, 329.
—— cumingi, 295.
—— superciliosus, (1875) 329, 411, (1877) 517, (App.) 656.
Dasyptilus, 133.
daudini (Merops), 145, 316, 317.
dauma (Turdus), 433.
daurica (Calornis), 369.
—— (Cecropis), 349, 411.
—— (Hirundo), 349, 350.
—— (Sturnia), 178, 179.
dauricus (Corvus), 175, 176.
—— (Sturnus), 178, 368.
—— (Temenucha), 319.
davidianus (Turdus), 351.
davisoni (Spilornis), 236.
—— (Turdulus), 512.
decorus (Cuculus), 329.
delalandii (Coccyzus), 62.
—— (Cochlothraustes), 64.
—— (Hydrochelidon), 202.
delamotta (Sterna), 202.
Demiegretta, 130, 199, 461.
—— asha, 199.
—— concolor, 249, 250.
—— greyi, 249.
—— gularis, 251.
—— jugularis, 250.
—— sacra, (1872) 199, 249, (1873) 250, 251, (1877) 460, 462, 475, 504, (App.) 660.
Dendrobiastes basilanica, 573, 657.
Dendrochelidon, 324, 434.
Dendrocitta, 52, 132, 296.
—— bayleyi, 266.
Dendrocopus, 7.
Dendrocygna, 130, 201.
—— gouldi, 201.
—— guttata, 201.
—— guttulata, 201.
—— vagans, (1872) 118, 201, (1875) 404, 413, (1877) 543, 561, (1878) 602, 625, 645, (App.) 660.
Dendromanthus maculatus, 522.
Dendrophila, 132, 296, 419.
—— frontalis, 419, 429, 658.
—— œnochlamys, 530, 535, 658.
Dendrotypes analis, 419, 477, 480.
dentirostris (Edolius), 671.
derbianus (Orthotomus), (1872) 360, 411, (1877) 513, 522, (App.) 658.
derbyanus (Palæornis), 236.
Dermophrys jagori, 371, 473.
diademata (Columba), 183.
diardi (Harpactes), 101.
—— (Melias), 156, 478.
—— (Rhopodytes), 478.
—— (Turdus), 48.
Dicæum, (1866) 21, (1872) 128, 173, (1875) 364 (1876) 431, (1877) 565, (1878) 604.
—— celebicum, 173.
—— chrysochlore, 230.
—— chrysorrhœum, 230, 430, 431.
—— cinereigulare, (1877) 543, 555, (1878) 641, (App.) 658, 665.
—— croceoventre, 230, 489.
—— cruentatum, 22, 116, 430.
—— dorsale, 536, 555, 658.
—— erythrothorax, 78.
—— everetti, (1877) 564, (1878) 566, 570, (App.) 658, 665.
—— flammeum, 477, 489.
—— flavipes, 90.

Dicæum hæmatostictum, 592, 658.
—— hypoleucum, 471, 649, 658.
—— leclancheri, 173.
—— mindanense, (1877) 461, 471, (App.) 658, 665.
—— minimum, 430, 431.
—— modestum, 604, 665.
—— olivaceum, 414, 489, 665.
—— pygmæum, 414.
—— retrocinctum, (1875) 364, 411, (1877) 523, 536.
—— rubriventre, (1875) 411, (1877) 523, 536, 555, (1878) 570, 641, (App.) 658.
—— sanguinifrons, 671.
—— schistaceum, (1877) 564, (1878) 566, 570, (App.) 658, 665.
—— trigonostigma, (1866) 22, (1872) 230, (1876) 430, 431, (1877) 489, 523, (App.) 654, 658.
—— virescens, 414, 430.
—— xanthopygium, (1877) 510, 513, 523, (App.) 658, 665.
Dicranostreptus, 580, 581.
—— megarhynchus, 580, 581.
dicruriformis (Dissemuroides), 272, 577, 579.
dicruroides (Pseudornis), 222.
Dicruropsis, 609.
Dicrurus, (1866) 23, 24, (1872) 129, 171, (1875) 345, 346, (1878) 576, 582, 583, 609, 610.
—— andamanensis, 577.
—— annectens, 346, 432, 576.
—— ashantensis, 583.
—— assimilis, 576, 577, 583.
—— atripennis, 576.
—— atrocæruleus, 205.
—— balicassius, (1872) 120, (1875) 299, 345, 346, 409, 411, (1877) 432, 469, (1878) 518, 576, 609, (App.) 656.
—— bimaensis, 205, 577.
—— cærulescens, (1866) 24, (1867) 50, (1875) 346, (1878) 579.
—— cineraceus, (1866) 23, 24, (1870) 94, (1878) 578.
—— cristatus, 580.
—— coracinus, 576.
—— edoliiformis, 50.
—— forficatus, 579, 580.
—— himalayanus, 578.
—— intermedius, 23, 24, 583.
—— læmostictus, 610.
—— leucogaster, 578, 583.
—— leucophæus, (1866) 23, (1870) 94, (1877) 498, (1878) 578, 579, 583, 610.
Dicrurus leucops, 171, 577, 610.
—— leucopygialis, 50, 346.
—— longicaudatus, 34, 671.
—— lophorhinus, 50, 580.
—— ludwigi, 576.
—— macrocercus, 577.
—— marginatus, 583.
—— megarhynchus, 610.
—— mirabilis, (1872) 120, (1875) 299, 346, 411, (1877) 530, 533, (1878) 590, 609, (App.) 656, 665.
—— modestus, 576, 583.
—— musicus, 346, 577.
—— mystaceus, 583.
—— palawanensis, (1878) 607, 609, 610, (App.) 656, 665.
—— pectoralis, 171, 577, 610.
—— platurus, 497.
—— striatus, (1877) 461, 469, 552, (1878) 568, 583, 603, 609, 639, 648, (App.) 656, 665.
diffusus (Oriolus), 534.
dillwynni (Ceyx), 223.
—— (Megapodius), (1875) 388, 412, (1877) 540, (1878) 644, 651, (App.) 659, 667.
dilutior (Arachnothera), 616, 658.
dimidiatus (Centrococcyx), 159, 161.
—— (Centropus), 159.
—— (Gecinus), 17.
diops (Alcedo), 147.
—— (Halcyon), 205.
Diplopterus nævius, 62.
—— punctulatus, 64.
discolor (Certhia), 428.
—— (Cuculus), 64.
discurus (Pionias), 300.
—— (Prioniturus), (1875) 300, 410, (1877) 461, 462, 514, 530, 544, (1878) 602, 628, 646, (App.) 655.
—— (Psittacus), 300, 462.
—— (Urodiscus), 300.
dispar (Rubigula), 477.
—— (Turdus), (1866) 34, 36, 37, (1877) 492.
Dissemuroides, 580.
—— andamanensis, 579, 580.
—— dicruriformis, 272, 577, 579.
—— edoliiformis, 580.
—— lophorhinus, 580.
Dissemurus, (1871) 110, (1872) 132, (1873) 244, (1875) 296, 346, (1877) 497, (1878) 575, 576, 580, 581.
—— affinis, 244.

Dissemurus brachyphorus, (1873) 244, (1877) 497, (1878) 575, 581, 582.
—— ceylonensis, 576, 581, 582.
—— cristatellus, 582.
—— formosus, 582.
—— grandis, 576, 581, 582.
—— intermedius, 581.
—— lophorhinus, 575, 581.
—— malabaricus, (1877) 497, (1878) 575, 580, 581.
—— malabaroides, 581.
—— malayensis, 110, 671.
—— megalornis, 581.
—— megarhynchus, 575.
—— paradiseus, (1866) 23, (1869) 64, (1877) 497, (1878) 575, 581, 582.
—— platurus, (1877) 497, (1878) 575, 580, 581.
—— rangoonensis, 110.
—— retifer, 582.
—— setifer, 582.
dobsoni (Graucalus), 245, 342.
doliatus (Thamnophilus), 39.
domicola (Hirundo), 434, 499.
dominica (Lalage), (1872) 171, (1875) 343, 411, (1877) 460, 469, 496, 514, 518, 533, 552, (1878) 568, 590, 597, 622, 639, 647, (App.) 656.
dominicanus (Artamus), 32, 625.
—— (Lanius), 32, 168, 421.
—— (Pastor), 368.
—— (Sturnia), 368.
—— (Turdus), 368.
dominicensis (Cuculus), 58.
dominicus (Coccyzus), 63.
—— (Cuculus), (1869) 58, 62, 63, 64.
—— (Turdus), (1872) 170, 178, (1875) 343, (1877) 469, 496.
dorsale (Dicæum), 536, 555, 658.
Dromas ardeola, 267.
Drymocataphus, 510, 612.
—— cinereiceps, (1878) 607, 612, (App.) 657, 665.
—— fulvus, (1875) 414, (1877) 510, 511, (App.) 665.
—— malaccensis, 612.
—— nigrocapitatus, 493.
—— tickelli, 510.
Drymœca blanfordi, 662, 665.
Drymophila, 205.
—— alecto, 205.
Dryococcyx, 609.
—— harringtoni, 608.
dubia (Ægialitis), (1872) 188, 189, (1873) 248, (1875) 390, 412, (1877) 526, 559, (1878) 600, 624, (App.) 659.
dubia (Æthopyga), 566, 571, 663.
—— (Certhia), 84.
—— (Eudrepanis), 658.
dubium (Scissirostrum), 181.
dubius (Charadrius), 390.
—— (Lanius), 181.
Ducula, 129, 183, 184.
—— badia, 416, 417.
—— griseicapilla, 416, 417, 665.
—— insignis, 416, 417.
—— rosacea, 184.
dumeticola (Strix), 426.
dumetorum (Cacomantis), 157.
—— (Cuculus), 157.
dussumieri (Columba), 382.
—— (Graucalus), 340, 341, 342.
—— (Turtur), (1875) 382, 383, 412, (1877) 525, 538, 559, (1878) 594, 600, 623, 628, 643, (App.) 659.
duvauceli (Bucco), 487.
—— (Harpactes), 101, 486.
—— (Trogon), 101, 486.
—— (Xantholæma), 487.
Dysporus, 130, 204, 407.
—— piscator, 408, 413, 660.
—— sula, (1872) 204, (1875) 407, 413, (1878) 573, 645, (App.) 660.

ecaudatus (Rallus), 394.
Eclectus ceylonensis, 305.
—— linnei, 305.
—— luconensis, 301.
—— muelleri, 135.
—— roratus, 306.
Edela ruficeps, 615.
edela (Orthotomus), 496.
edoliiformis (Dicrurus), 50.
—— (Dissemuroides), 580.
Edoliosoma melanolæma, 170.
—— morio, 170.
Edolius affinis, 346.
—— albirictus, 24.
—— bengalensis, 671.
—— cineraceus, 498.
—— dentirostris, 671.
—— forficatus, 575, 576.
—— furcatus, 345, 346.
—— intermedius, 497.
—— malayensis, 497.
—— orissæ, 671.

Edolius picinus, 498.
—— rangoonensis, 346, 497.
—— remifer, 497, 582.
—— retifer, 497.
—— setifer, 110, 497.
—— viridescens, 24, 345.
egertoni (Actinura), 415.
egretta (Herodias), 198.
egrettoides (Ardea), 268.
Elanus, (1872) 129, 139, (1875) 309, 310.
—— hypoleucus, (1872) 134, 139, (1875) 309, 310, 410, (1877) 531, (1878) 630, 646, (App.) 655.
—— intermedius, 139, 309, 310.
—— melanopterus, 309.
elegans (Cinnyris), 490.
—— (Cyornis), 226, 499.
—— (Machlolophus), 363, 411, 522.
—— (Muscicapa), 226, 499.
—— (Muscipeta), 12, 667.
—— (Parus), (1875) 363, (1877) 513, 522, 530, 535, (1878) 592, (App.) 658.
—— (Pericrocotus), 110, 432.
elgini (Hæmatornis), 237.
—— (Spilornis), 237, 255.
elliotti (Buceros), 6, 664.
Emberiza cia, 55.
—— panayensis, 374.
—— pusilla, 265.
—— signata, 374.
—— sordida, 265.
—— stracheyi, 55.
emiliana (Macropygia), 247, 382.
emphanum (Polyplectrum), 618.
enca (Corvus), (1872) 175, 211, (1875) 366, (1877) 473, 501, (1878) 617.
Enicurus, 132, 296.
—— chinensis, 494.
—— frontalis, 494.
Enneoctonus, 45.
—— anderssoni, 46.
—— arenarius, 46.
—— crassirostris, 44.
—— cristatus, 39.
—— lucionensis, 39.
—— phœnicurus, 41.
—— superciliosus, 43.
Enodes, 130, 179.
—— erythrophrys, 179.
Entomobia, 320, 322.
Entomobia fusca, 321.
—— gularis, (1872) 119, (1875) 320, 321, 410, (1877) 460, 461, 462, 465, 516, 531, 549, (1878) 588, 596, 603, 628, 634, (App.) 665.
—— melanoptera, 321.
—— pileata, (1875) 321, 322, 410, (App.) 654, 655.
—— smyrnensis, 239, 321, 322.
Entomophila, 133.
Entomothera, 321.
Eos, 133, 205.
—— cochinsinensis, 205.
epauletta (Cinnyris), 73.
Ephialtes, 128, 142.
—— jerdoni, 97, 665.
—— lempijius, 97.
—— leucospila, 142, 143.
—— magicus, 142, 143.
—— megalotis, 312.
—— menadensis, 134, 143.
—— scops, 426.
epimecurus (Cinnyris), 83.
episcopus (Melanopelargus), (1872) 200, (1878) 600, 645, (App.) 660.
eques (Cinnyris), 92, 665.
eremita (Monticola), 357.
—— (Turdus), 165.
Erolla nasica, 224.
erythaca (Erythrosterna), 116.
Erythra, 128, 193, 392.
—— phœnicura, (1872) 193, (1874) 267, (1875) 392, 412, (1877) 504, 560, (1878) 644, (App.) 659.
erythrocephalus (Chrysocolaptes), 607, 655.
—— (Merops), 238.
erythrogaster (Brachyurus), 352.
erythrogastra (Erythropitta), (1875) 352, 411, (1877) 461, 470, 513, 514, (1878) 639, 649, (App.) 657.
—— (Pitta), 352, 470.
erythrogenys (Hierax), (1875) 306, 307, 411, (1877) 514, (App.) 655.
—— (Ierax), 307.
—— (Microhierax), 514, 530, 629.
—— (Palæornis), (1866) 31, (1873) 236, (1874) 284, 285.
erythrognathus (Phœnicophaes), (1872) 102, 154, 155, 156, (1877) 428, 478, (1878) 609.
—— (Rhopodytes), 478.
erythronota (Geocichla), 163, 206, 210.
—— (Timelia), 227.
erythronotus (Brachypternus), 118.
—— (Collurio), 43.

erythronotus (Lanius), 336.
erythrophrys (Enodes), 179.
Erythropitta, 164, 352.
—— celebensis, 164.
—— coccinea, 226.
—— erythrogastra, (1875) 352, 411, (1877) 461, 470, 513, 514, (1878) 639, 649, (App.) 657.
—— granatina, 226, 227.
—— kochi, 605, 657.
erythropleura (Suya), 662, 670.
erythroptera (Timelia), 493.
erythropterum (Cyanoderma), 493.
erythropterus (Turdus), 358.
erythropygia (Hirundo), 423.
—— (Saxicola), 357.
erythropygius (Gecinus), 290, 419.
Erythrospiza, 129, 137.
—— iogastra, 137.
—— trinotata, 137.
Erythrosterna erythaca, 116.
—— maculata, 432.
—— parva, 233.
erythrothorax (Dicæum), 78.
—— (Gallinula), 393.
—— (Porzana), 600.
Esacus, (1872) 129, 190, 191, (1875) 390.
—— magnirostris, (1872) 190, 191, (1875) 390, 393, 412, (App.) 659.
—— recurvirostris, 191.
esculenta (Collocalia), (1872) 149, (1874) 258, 259, 260, (1878) 589.
—— (Hirundo), 149, 258, 259.
Eudrepanis, 565.
—— bella, 555.
—— dubia, 658.
—— pulcherrima, 658.
Eudromias, 129, 188.
—— geoffroyi, (1878) 586, 594, 600, 619, 623.
—— mongolicus, 600, 623.
—— veredus, 188.
Eudynamis, (1869) 57, 58, 59, 60, 61, 67, 68, 69, 70, (1872) 129, 158, 159, (1875) 328.
—— australis, 61, 67.
—— ceylonensis, 66.
—— chinensis, 61, 67.
—— crassirostris, 66.
—— cyanocephala, (1869) 66, 67, 69, (1875) 321.
—— facialis, 69, 70.
—— flindersi, 67.
Eudynamis, honorata, (1869) 63, 65, 66, 67, 69, (1873) 239, (1875) 328.
—— horonata, 239.
—— maculata, 64, 328.
—— malayana, (1869) 66, 67, 69 (1873) 239, (1875) 328.
—— melanorhyncha, (1869) 60, 69, 70, (1872) 156, 210.
—— mindanensis, (1869) 61, 63, 66, 67, (1875) 328, 411, (1877) 460, 462, 467, 514, 517, 549, (1878) 637, 647, (App.) 656.
—— niger, 62, 66.
—— orientalis, (1869) 59, 63, 66, 67, 68, 69.
—— panayana, 64.
—— picata, 68.
—— punctata, 63, 68.
—— ransomi, (1869) 60, 65, 66, 68, 69, 70, (1875) 328.
—— rufiventer, 69, 328.
—— scolopacea, 63.
—— tahitia, 64.
Eulabes, (1871) 111, (1872) 132, 181, (1873) 246, (1875) 296.
—— andamanensis, 112, 246.
—— intermedia, (1845) 10, 111, 112, (1873) 246.
—— javana, 9, 181.
—— javanensis, 111, 112, 658.
—— religiosa, 111.
Eumyias, 132.
—— melanops, 432.
—— panayensis, 657.
eupatrius (Palæornis), (1874) 235, 274, 275, 276, (1875) 305.
Euplocamus, 132, 296.
—— ignitus, 232.
—— nobilis, 232.
eupogon (Æthopyga), (1870) 81, 104, (1872) 231, (1876) 429, 430, (1877) 488.
euptilosus (Brachypus), 356, 492.
europæus (Caprimulgus), 212.
eurycerca (Macropygia), (1878) 586, 594, 643, 651, (App.) 659, 666.
Eurycercus cinerascens, 288, 665.
eurycercus (Centrococcyx), (1872) 159, 221, (1878) 609, (App.) 656.
—— (Centropus), (1872) 159, (1877) 479, (1878) 609, (App.) 671.
Eurylæmus, 132, 296.
—— corydon, 223.
—— cucullatus, 224.
—— horsfieldi, 223.
—— javanicus, 223, 224.

Eurylæmus lemniscatus, 224, 499.
—— ochromelas, 224, 434, 500.
—— rafflesi, 224.
—— steerii, 569, 648.
Eurystomus, 129, 146, 319.
—— orientalis, (1872) 119, 146, (1873) 238, (1875) 319, 410, (1877) 461, 464, 516, 531, (1878) 567, 588, 596, 603, 608, 646, (App.) 655.
—— pacificus, 146.
Eurystopodus, 133.
euryzona (Alcedo), 485.
—— (Gallinula), 393.
—— (Ortygometra), 393.
euryzonoides (Gallinula), 540, 594, 601.
—— (Rallina), (1877) 529, 540, (1878) 594, 601, (App.) 654, 659.
eutolmus (Hierax), 101, 307.
everetti (Criniger), (1877) 543, 553, 563, (1878) 570, 604, (App.) 657, 665.
—— (Dicæum), (1877) 564, (1878) 566, 570, (App.) 658, 665.
—— (Oxycerca), (1877) 510, 513, 524, 530, 537, (1878) 617, (App.) 659, 668.
—— (Scops), (1878) 627, 633, 646, (App.) 655, 669.
—— (Tanygnathus), (1877) 543, 544, 561, (App.) 655, 670.
—— (Tiga), 607, 655, 670.
—— (Zosterops), (1877) 529, 536, 555, (1878) 570, 641, (App.) 658, 671.
exaratus (Buceros), 150, 206.
Excalfactoria, 129, 187, 387.
—— chinensis, (1872) 123, 187, (1875) 387, 412, (App.) 659.
—— lineata, 387.
—— minima, 187, 387.
excalfactoria (Coturnix), 387.
excubitor (Lanius), 42.
exilis (Loriculus), 136.
eximia (Æthopyga), 83.
—— (Nectarinia), (1866) 19, (1870) 75, 88, 92, (1875) 365.
expectata (Anthreptes), 86.
eytoni (Arachnothera), 488.

facialis (Eudynamis), 69, 70.
falcata (Arachnecthra), 93.
—— (Certhia), 74, 93.
—— (Ptilocichla), 657.
Falcinellus, 130, 200.
—— igneus, 200.
Falcinellus peregrinus, 200.
falcinellus (Ibis), 200.
—— (Tantalus), 200.
Falco æruginosus, 311.
—— aldrovandi, 136.
—— aterrimus, 370.
—— bacha, 218.
—— bido, 218.
—— cærulescens, 101.
—— cheela, 218.
—— columbarius, 137.
—— cuculoides, 138.
—— fringillarius, 477.
—— gironieri, 306.
—— guttatus, 306.
—— herbæcola, 425, 426.
—— indicus, 141, 310.
—— javanicus, 140.
—— lathami, 425.
—— leucogaster, 309.
—— melanogenys, 306.
—— melanoleucus, 310.
—— nisosimilis, 426.
—— peregrinator, 424, 426.
—— peregrinus, 306.
—— poliogenys, 140, 141.
—— pondicerianus, 477.
—— ptilorhynchus, 477, 547.
—— rupicola, 137.
—— semitorquatus, 233.
—— sericeus, 306.
—— severus, 117, 306.
—— soloensis, 308.
—— trivirgatus, 307, 477.
—— virgatus, 308.
fallax (Ceycopsis), 148, 209.
familiaris (Prinia), 477, 495, 496.
famosa (Certhia), 77.
fasciata (Coracina), 225, 340.
—— (Rallina), (1875) 393, 412, (1878) 594, (App.) 654. 659.
—— (Turnix), (1877) 513, 526, 538, 539, (App.) 659.
fasciatus (Butastur), 2, 664.
—— (Buteo), 2.
—— (Graucalus), 225, 342.
—— (Harpactes), 101, 434.
—— (Hemipodius), 388, 526.
—— (Nisaetus), 424.
—— (Rallus), 393.

fasciolatus (Acrocephalus), 605, 606, 657.
—— (Cacomantis), 157.
—— (Cuculus), 157, 222.
feddeni (Muelleripicus), 103.
—— (Thriponax), 103.
ferox (Lanius), 44, 45, 56.
ferrea (Hypotænidia), 267, 541, 666.
ferrugiceps (Lanius), 39.
—— (Merops), 16.
ferruginea (Butalis), 432.
—— (Columba), 376.
—— (Munia), 500.
ferrugineus (Gallus), 186.
—— (Tetrao), 186.
ferruginosa (Munia), 112.
fiber (Sula), 204.
fieldeni (Lithofalco), 233, 620.
—— (Poliohierax), 620.
fimbriata (Ceblepyris), 170.
— (Volvocivora), 432.
fingah (Buchanga), 120.
finlaysoni (Ixus), 414.
—— (Pycnonotus), 26.
finschi (Trichostoma), 436, 670.
flabelliformis (Cacomantis), 157.
—— (Cuculus), 157.
flammaxillaris (Arachnecthra), (1866) 19, 20, (1870) 75, (1871) 105, (1873) 245, (1875) 365, (1876) 430.
—— (Cinnyris), 615.
—— (Cyrtostomus), 615.
— (Nectarinia), 19, 20.
flammea (Motacilla), 489.
flammeum (Dicæum), 477, 489.
flammeus (Pericrocotus), 110, 498.
—— (Turdus), 498.
flammiceps (Cephalopyrus), 671.
—— (Zapornia), 393.
flammifer (Pericrocotus), 498.
flammifera (Arachnothera), 595, 598, 658.
flava (Motacilla), 360.
—— (Sylvia), 363.
—— (Zosterops), 364.
flaveolus (Passer), 370, 668.
flavescens (Motacilla), 167.
flavicans (Prioniturus), 136.
flavicollis (Ardea), 398, 660.
—— (Ardetta), (1875) 398, 413, (1877) 560, (App.) 660.
—— (Capito), 323.
—— (Ptilopus), 205.
—— (Timelia), 25, 228.
flavigaster (Anthreptes), 488.
flavigastra (Arachnecthra), 79, 172.
—— (Arachnothera), 79, 488, 663.
—— (Nectarinia), 408.
flavigula (Bucco), 323.
flavigularis (Treron), 376.
flavinotus (Picus), 15.
flavipennis (Phyllornis), (1877) 529, 535, (1878) 657, (App.) 669.
flavipes (Coturnix), 387.
—— (Dicæum), 90.
flavirostris (Anas), 118.
flaviventris (Arachnoraphis), 79.
—— (Certhia), 84.
—— (Cuculus), 65, 328.
—— (Prinia), 496.
—— (Vanga), 37.
flavocristatus (Parus), 29.
flavostriata (Æthopyga), 82, 86, 172.
flavoviridis (Trichoglossus), 113.
flavus (Cacomantis), 65, 156.
—— (Cuculus), (1869) 61, 65, (1872) 156, (1875) 326.
—— (Oriolus), 370.
—— (Xanthosomus), 370.
flavum (Dicæum), 363.
flindersi (Eudynamis), 67.
florensis (Athene), 144.
flosculus (Loriculus), 131.
fluviatilis (Hydrochelidon), 202, 405.
—— (Sterna), 138, 406.
forficatus (Dicrurus), 579, 580.
—— (Edolius), 575, 576.
formosa (Lamprotreron), 183.
—— (Querquedula), 404.
—— (Sitta), 428.
formosana (Chalcophaps), 385.
—— (Munia), 371.
formosus (Broderipus), 241.
—— (Dissemurus), 582.
—— (Oriolus), 351.
—— (Troglodytes), 253.
forsteni (Brachyurus), 164.
—— (Hemiphaga), 184, 381.
—— (Meropogon), 146, 209.
—— (Melanopitta), 164.
—— (Melittophagus), 209.
—— (Pitta), 353.
—— (Sauropatis), 147.
Foudia, 339.

francica (Collocalia), (1872) 149, (1874) 258, 259, (1875) 325, (1876) 434, (1878) 586, 588, 589, (App.) 656.
—— (Hirundo), 149, 259, 588.
franklini (Cyanops), 427.
—— (Megalæma), 413.
fraseri (Pelargopsis), 484.
frator (Criniger), 613, 657.
Fregilus himalayanus, 55.
frenata (Arachnecthra), (1870) 75, 76, 79, 86, 87, (1872) 172, 245, (1875) 365, (1877) 488.
—— (Cinnyris), 20, 615.
—— (Nectarinia), 20, 76.
frenatus (Cyrtostomus), 615.
Fringilla ardens, 374.
—— leuconota, 265.
—— majanoides, 112.
—— minuta, 372, 593.
—— montana, 370.
—— risoria, 29, 54.
—— rubrifrons, 671.
—— striata, 266.
fringillarius (Falco), 477.
—— (Hierax), 101.
—— (Microhierax), 477.
Fringillauda sordida, 53.
fringilloides (Ploceus), 54.
frontalis (Broderipus), (1872) 119, 163, (1873) 241, (1875) 350, 351.
—— (Dendrophila), 419, 429, 658.
—— (Enicurus), 494.
—— (Henicurus), 494.
—— (Nectarinia), 79.
—— (Orthotomus), (1877) 554, (1878) 570, 621, 622, 641, 649, (App.) 658.
frontata (Gallinula), 192.
fruticola (Saxicola), 357.
fucatus (Cuculus), 656.
fuciphaga (Collocalia), (1872) 149, (1873) 239, (1874) 258, 259, 260, (1875) 325, (1878) 605, (App.) 656.
—— (Hirundo), (1873) 239, (1874) 259, 260, (1878) 605.
fucivora (Hemiprocne), 260.
fugax (Cuculus), 479.
—— (Hierococcyx), 479.
Fulica chloropus, 391.
—— cinerea, 392.
—— cristata, 392.
fulicata (Motacilla), 357, 358.
—— (Thamnobia), 357.
fuliginosus (Acridotheres), 366.
—— (Muelleripicus), (1877) 543, 548, 562, (App.) 655, 667.
fullertoni (Bombycistomus), 454.
—— (Podargus), 454.
fulvescens (Aquila), 424.
fulvicollis (Columba), 375, 376.
—— (Osmotreron), 375.
fulvigaster (Picus), 145.
fulvitincta (Hyloterpe), 344.
fulviventer (Haliaetus), 426.
—— (Reguloides), 661, 663.
fulvus (Charadrius), (1872) 122, 188, (1873) 248, (1875) 389, 412, (1877) 461, 462, 474, 503, 526, 540, 559, (1878) 600, 623, 628, (App.) 659.
—— (Drymocataphus), (1875) 414, (1877) 510, 511, (App.) 665.
—— (Muelleripicus), 144, 314, 562.
fumigata (Calamoherpe), 606.
—— (Munia), (1873) 252, (1874) 265, 266, (App.) 667.
funebris (Halcyon), 205.
—— (Muelleripicus), (1875) 313, 410, (1877) 548, (App.) 655.
—— (Picus), 313.
—— (Todiramphus), 147.
funereus (Picus), 314.
furcatus (Balicassius), 345.
—— (Edolius), 345, 346.
—— (Oriolus), 50, 346, 583.
fusca (Alcedo), 321.
—— (Ardea), 197.
—— (Entomobia), 321.
—— (Porzana), (1875) 393, 412, (1878) 600, 644, (App.) 659.
fuscata (Ibis), 395, 396.
fuscatus (Lanius), 50, 51.
fuscoalbidus (Yungipicus), 481, 515, 634.
fuscoflavescens (Brachypodius), 241.
fuscus (Acridotheres), 29, 178.
—— (Artamus), 626, 627.
—— (Halcyon), 104.
—— (Pastor), 29, 367.
—— (Rallus), 393.

gaimardi (Turtur), 382.
gala (Psittacus), 301.
galbula (Oriolus), 162, 210, 351.
galericulata (Lophocitta), 111.
galericulatus (Platylophus), 111.

galeritus (Anorhinus), 482.
—— (Buceros), 482.
Galgulus indicus, 119, 319.
—— philippensis, 356.
galgulus (Coryllis), 304.
—— (Loriculus), (1866) 17, (1867) 49, (1871) 101, (1877) 482.
—— (Psittacus), 302, 482.
Gallicrex, 132, 392.
—— cinerea, (1873) 248, (1875) 392, 412, (1878) 644, (App.) 659.
—— cristatus, 392.
gallinacea (Parra), 192.
gallinaceus (Hydralector), 192.
Gallinago, 130, 197, 397.
—— heterocerca, 398.
—— megala, (1872) 197, (1875) 397, 398, 412, (1877) 542, (1878) 601, 644, (App.) 660.
—— scolopacina, (1875) 397, 412, (1877) 528, (1878) 601, 625, (App.) 660.
—— stenura, (1873) 249, (1877) 461, 462, 475, (App.) 660.
gallinago (Scolopax), 397.
Gallinula, 130.
—— ardosiacea, 193.
—— chloropus, (1872) 193, (1875) 391, 412, (1877) 527, 540, (1878) 600, 644, (App.) 659.
—— circoleps, 394.
—— cristata, 248, 392.
—— erythrothorax, 393.
—— euryzona, 393.
—— euryzonoides, 540, 594, 601.
—— frontata, 192.
—— gularis, 392.
—— hæmatopus, 192, 193.
—— lugubris, 392.
—— nævia, 392.
—— orientalis, 193.
—— plumbea, 392.
—— porphyrioides, 392.
—— rubiginosa, 393.
—— tenebrosa, 193.
Galloperdix spadiceus, 541.
Gallus, 128, 131, 186.
—— bankiva, (1872) 186, (1875) 386, 412, (1878) 644, 651, (App.) 659.
—— ferrugineus, 186.
—— stramineicollis, 659.
Gampsorhynchus rufulus, 417.
Gampsorhynchus torquatus, 417.
gardeni (Ardea), 199.
Garrulax, 48, 132.
—— belangeri, 25, 26, 48.
—— chinensis, 26.
—— leucogaster, 26, 48.
—— leucolophus, 26, 48.
Garrulus, 53.
garrulus (Lorius), 306.
garzetta (Ardea), 198, 399.
—— (Herodias), (1872) 198, (1874) 268, (1875) 399, 413, (1877) 528, (1878) 601, 625, (App.) 660.
Gazzola, 130, 175, 176.
—— caledonica, 176.
—— typica, 175, 176.
Gecinus dimidiatus, 17.
—— erythropygius, 290, 419.
—— nigrigenis, 290.
—— striolatus, 17.
—— viridanus, 17.
gelastes (Turtur), 384.
Geocichla, (1870) 96, (1871) 106, (1872) 128, 163, (1874) 262, 287, (1875) 296.
—— albigularis, 262, 287.
—— andamanensis, 287, 666.
—— citrina, 96, 666.
—— cyanota, 96.
—— erythronota, 163, 206, 210.
—— innotata, 262, 287, 288.
—— interpres, 163.
—— layardi, 96, 666.
—— modesta, 105.
—— rubecula, 96.
—— rubiginosa, 96.
Geococcyx mexicanus, 65.
geoffroyi (Ægialitis), (1873) 248, (1875) 390, 412, (1877) 503, (App.) 659.
—— (Charadrius), 390, 503.
—— (Eudromias), (1878) 594, 600, 619, 623.
Geoffroyius, 133.
Geopelia, 129, 186.
—— striata, (1871) 112, (1872) 186, (1875) 386, 412, (1877) 503, 513, 525, (App.) 659.
Gerygone, 133, 359.
—— inornata, 359.
—— modesta, 359.
—— simplex, 359, 411, 657.
geversi (Ptilopus), 377.
gibberifrons (Marcca), 201, 251.

gigantea (Acanthylis), 257.
—— (Chætura), 149.
—— (Columba), 502.
—— (Pelargopsis), (1874) 253, (1877) 460, 461, 462, 465, 548, (1878) 567, 596, 634, 647, (App.) 655, 668.
—— (Vinago), 502.
giganteus (Charadrius), 190.
—— (Hirundinapus), 149, 257.
gigas (Cuculus), 62, 64.
gilberti (Megapodius), 187.
gingalensis (Buceros), 4, 335.
gingianus (Buceros), 4.
—— (Psittacus), 235.
—— (Turdus), 367.
gingica (Perdix), 386.
gingicus (Tetrao), 386.
gironieri (Falco), 306.
—— (Leucotreron), (1875) 377, 409, 412, (1878) 593.
—— (Palæornis), 305.
glandarius (Coccystes), 63.
—— (Cuculus), 59, 63, 64.
Glareola, 214, 391.
—— grallaria, 214.
—— orientalis, (1872) 121, (1874) 266, (1875) 391, 412, (1877) 504.
glareola (Actitis), 195, 249, 396.
—— (Rhyacophilus), (1875) 396, 412, (1877) 528, (1878) 624.
—— (Totanus), 504.
—— (Tringa), 96, 504.
Glaucidium brodei, 426.
Glaucomyias melanops, 93.
—— sordida, 93, 666.
glottis (Scolopax), 396.
—— (Totanus), 196, 396, 412.
Glyciphila, 133.
goalpariensis (Æthopyga), 81.
—— (Certhia), 80.
—— (Nectarinia), 19, 80.
goiavier (Ixus), (1875) 355, 411, (1877) 461, 462, 470, 521, 553, (1878) 568, 591, 598, 622, 640, 649, (App.) 657.
—— (Muscicapa), 355, 470.
goisagi (Gorsachius), 401, 402.
—— (Nycticorax), 401.
goliath (Ardea), 197.
gordoni (Prionochilus), 431.
Gorsachius, 401.
—— goisagi, 401, 402.
—— melanolophus, (1875) 401, 402, 413, (App.) 660.
gouldi (Ardetta), 398.
—— (Circus), 141.
—— (Dendrocygna), 201.
—— (Pelargopsis), 319, 410, 655.
gouldiæ (Æthopyga), 82, 90.
—— (Cinnyris), 82.
Goura, 133.
gourdini (Pycnonotus), 355.
govinda (Milvus), 423, 426.
gracilis (Anas), 201.
Gracula calva, 120, 121, 369.
—— caudata, 354, 520.
—— cristatella, 366, 367.
—— indica, 8, 9, 10.
—— intermedia, 10, 666.
—— javana, 8, 9, 10.
—— javanensis, 501, 617.
—— religiosa, (1845) 8, 9, 10, (1877) 501.
—— saularis, 27.
—— sturnina, 368.
grallaria (Glareola), 214.
grallarius (Œdicnemus), 190.
Graminicola bengalensis, 99, 105.
grammithorax (Picus), 221.
granatina (Erythropitta), 226, 227.
—— (Pitta), 105.
granatinus (Brachyurus), 226.
grandis (Dissemurus), 576, 581, 582.
Graucalus, (1872) 129, 169, 170, 175, 176, 225, (1875) 340, 341, 342.
—— atriceps, 169.
—— concretus, (1872) 225, (1873) 245, (1875) 342, (1877) 496.
—— dobsoni, 245, 342.
—— dussumieri, 340, 341, 342.
—— fasciatus, 225, 342.
—— lagunensis, 341, 342.
—— layardi, 245.
—— leucopygius, 170.
—— lineatus, 245, 342, 343.
—— macei, 23, 244, 245.
—— personatus, 170.
—— striatus, (1873) 245, (1875) 340, 409, 411, (1877) 518, 532, 552, (App.) 656.
—— sumatrensis, 496, 609, 656.
—— swainsoni, 245, 342, 343.
—— temmincki, 170, 210, 215.
Grauculus nipalensis, 244.
grayi (Ardeola), 197, 268.

grayi (Argusianus), 218.
—— (Cisticola), (1872) 127, 214, (1877) 544, 554, (1878) 592, (App.) 654, 658, 664.
—— (Nectarophila), 72, 86, 172.
greyi (Demiegretta), 249.
grilli (Centropus), 61.
grisea (Ardea), 400.
—— (Certhia), 90.
—— (Sterna), 202.
griseatus (Caprimulgus), (1875) 326, 410, (1877) 513, 516, (App.) 656.
griseicapilla (Columba), 385.
(Ducula), 416, 417, 665.
—— (Osmotreron), 182.
—— (Treron), 182, 503.
griseicauda (Osmotreron), 182.
— (Treron), 375, 376.
griseiceps (Hyloterpe), 344.
—— (Lophospiza), 137.
griseigularis (Anthothreptes), (1877) 543, 557, (1878) 572, (App.) 663.
—— (Anthreptes), 658.
—— (Ianthœnas), (1872) 117, 121, (1875) 381, 412, (1878) 594, 651, (App.) 659, 666.
griseipectus (Carpophaga), 380.
—— (Ptilocolpa), (1875) 380, 412, (1878) 628, 643, (App.) 659.
griseisticta (Butalis), 348, 519.
—— (Hemichelidon), 168.
griseus (Acridotheres), 367.
—— (Gymnops), 120, 121, 370.
—— (Nycticorax), (1872) 199, (1875) 400, 413, (1877) 561, (App.) 660.
—— (Pastor), 178, 367.
—— (Scops), 97.
—— (Turdus), 367.
grisola (Butalis), 348, 519.
—— (Hyloterpe), 263, 419.
—— (Muscicapa), 242.
—— (Pachycephala), 264.
—— (Tephrodornis), 109, 264, 344.
guianensis (Psittacus), 305.
guineensis (Picus), 315.
Guira piririgua, 64.
guira (Cuculus), 64.
gularis (Alcedo), 320, 465.
—— (Ardea), 250.
—— (Brachypus), 34, 35, 36, 37.
—— (Calornis), 181.
gularis (Certhia), 76, 78.
—— (Cœreba), 76.
—— (Criniger), 107, 356.
—— (Demiegretta), 251.
—— (Entomobia), (1872) 119, (1875) 320, 321, 410, (1877) 460, 461, 462, 465, 516, 531, 549, (1878) 588, 596, 603, 628, 634, (App.) 655.
—— (Gallinula), 392.
—— (Halcyon), 116, 320.
—— (Lanius), 109.
—— (Leucotreron), 183, 377.
—— (Mixornis), 24, 25, 228.
—— (Motacilla), 24, 25, 228.
—— (Myothera), 25, 228.
—— (Philedon), 356.
—— (Podiceps), 204.
—— (Rallus), 194.
—— (Rubigula), 34, 36.
—— (Timelia), 25, 228.
—— (Turdus), 356.
gurial (Halcyon), 30, 435.
gurneyi (Pseudoptynx), (1878) 627, 632, 655, (App.) 669.
gustavi (Anthus), 437, 606, 658.
—— (Corydalla), 214, 606.
guttata (Dendrocygna), 201.
guttatus (Falco), 306.
—— (Turdinus), 433.
guttulata (Dendrocygna), 201.
gutturalis (Hirundo), (1872) 167, (1873) 243, (1875) 349, 411, (1877) 469, 513, 514, 519, (App.) 657.
—— (Muelleripicus), 103.
—— (Thriponax), 103.
Gymnocephalus calvus, 121.
gymnocephalus (Pityriasis), 218, 224.
Gymnocorvus, 133.
Gymnops calvus, 120, 370.
—— griseus, 120, 121, 370.
—— tricolor, 120, 370.
Gymnorhis superciliaris, 671.
Gypogeranus philippensis, 308.
Gyps bengalensis, 424.
—— indicus. 424.

hæmacephala (Xantholæma), (1872) 102, (1875) 299, 323, 324, 410, (1876) 428, (1877) 487, 516, 532, 549, (1878) 635, (App.) 656.
hæmacephalus (Bucco), 102, 323, 487.
hæmatopus (Gallinula), 192, 193.
Hæmatornis, 12.

Hæmatornis atricapilla, 12.
—— cheela, 236.
—— elgini, 237.
—— holospilus, 309.
hæmatostictum (Dicæum), 592, 658.
hæmatribon (Chrysocolaptes), (1872) 118, (1875) 299, 314, 410, (1877) 463, 464, 515, (App.) 655.
—— (Indopicus), 314.
—— (Picus), 314.
hæmaturopygia (Cacatua), (1872) 116, (1875) 299, 410, (1877) 529, 530, 544, (1878) 566, 587, 595, 602, 628.
hæmaturopygius (Psittacus), 299.
hæmorrhous (Ixus), 34.
—— (Pycnonotus), 26.
hæmorrhusa (Muscicapa), 34.
Halcyon, 332.
—— atricapillus, 104.
—— capensis, 30, 260.
—— chloris, 116, 147, 322.
—— coromandus, 104, 147.
—— coromandelicus, 104.
—— diops, 205.
—— funebris, 205.
—— fuscus, 104.
—— gularis, 116, 320.
—— gurial, 30, 435.
—— leucocephalus, 435.
—— pileatus, 104, 484.
—— smyrnensis, 30, 104.
—— winchelli, 634, 656.
Haliaetus fulviventer, 426.
—— leucogaster, 255.
—— pondicerianus, 309.
Haliastur, 129, 139, 309.
—— indus, 117, 309.
—— intermedius, (1875) 309, 410, (1877) 460, 461, 462, 463, 477, 515, 531, 547, (1878) 588, 596, 621, 628, (App.) 655.
—— leucosternus, 139, 309.
hardwicki (Collurio), 44.
hardyi (Lestris), 405.
Harpactes, 132, 133, 316.
—— ardens, (1875) 316, 410, (1877) 461, 464, (1878) 567, 634, (App.) 655.
—— diardi, 101.
—— duvauceli, 101, 486.
—— fasciatus, 101, 434.
—— kasumba, 101, 486.
Harpactes mackloti, 101.
—— orescius, (1866) 16, (1871) 101, (1872) 217, (1875) 419, (1876) 434.
—— rhodiosternus, 316.
—— rutilus, 101, 486.
harringtoni (Dryococcyx), 608.
—— (Phœnicophaes), 608, 656.
hartlaubi (Coryllis), 303, 545, 547.
—— (Loriculus), (1875) 299, 303, 304, 410, (1877) 545, 546, 547, (1878) 566, 595, 621, 628, 646, (App.) 655.
—— (Micropicus), 481.
hasselti (Anthus), 495.
—— (Corydalla), 363, 495.
—— (Nectarinia), (1866) 20, (1870) 86, 93, (1877) 489.
—— (Nectarophila), 430, 489.
hayi (Calorhamphus), 102.
—— (Megalorhynchus), 102.
heliaca (Aquila), 424.
helianthea (Myialestes), 167, 206.
helvetica (Squatarola), (1872) 122, (1874) 266, (1875) 389, 412, (1877) 559, (App.) 659.
helveticus (Charadrius), 389.
—— (Vanellus), 389.
Hemicercus, 132, 296.
—— brookeanus, 481.
—— brunneus, 480.
—— canente, 427.
—— concretus, 481.
—— sordidus, 481.
Hemichelidon, 52.
—— griseisticta, 168.
—— latirostris, 242.
Hemilophus javensis, 103.
Hemiphaga, 133, 184, 381.
—— forsteni, 184, 381.
—— poliocephala, (1875) 381, 412, (1878) 573, 643, (App.) 659.
Hemipodius, 388.
—— fasciatus, 388, 526.
—— pugnax, 388.
—— thoracicus, 387.
Hemiprocne fucivora, 260.
—— salangana, 258.
Hemipus, 132, 296.
—— obscurus, 432, 496.
—— picatus, 432.
Henicopernis, 133.
Henicophaps, 133.
Henicurus frontalis, 494.

Henicurus leschenaulti, 419, 494.
herbæcola (Falco), 425, 426.
Herbivox canturiens, 354.
Herodias, 130, 198.
—— alba, 198.
—— andamanensis, 249, 250.
—— concolor, 249.
—— egretta, 198.
—— garzetta, (1872) 198, (1874) 268, (1875) 399, 413, (1877) 528, (1878) 601, 625, (App.) 660.
—— intermedia, (1874) 268, (1875) 400, 413, (1878) 645, (App.) 660.
—— nigripes, 198.
—— pannosa, 250.
Herpornis, 428.
Herpotimia aspasia, 89.
heterocerca (Gallinago), 398.
—— (Scolopax), 398.
Heterorhynchus, 291.
heterura (Scolopax), 397.
hiaticula (Ægialitis), 189, 190.
hiemalis (Lanius), 39.
Hierax, 133, 306, 307.
—— cærulescens, 218, 307.
—— erythrogenys, (1875) 306, 307, 411, (1877) 514, (App.) 655.
—— eutolmus, 101, 307.
—— fringillarius, 101.
—— malayensis, 218.
—— melanoleucus, 307.
—— sericeus, 307.
Hierococcyx, 213, 327.
—— crassirostris, (1872) 123, 213, 215, (App.) 666.
—— fugax, 479.
—— pectoralis, (1875) 327, 411, (1878) 637, (App.) 656.
—— sparverioides, 124, 327, 654.
—— strenuus, (1875) 327, 411, (App.) 654, 656.
himalayanus (Cuculus), 213.
—— (Dicrurus), 578.
—— (Fregilus), 55.
himalayensis (Regulus), 55.
—— (Sitta), 93, 429.
Himantopus, 130, 191, 390.
—— autumnalis, (1875) 390, 412, (App.) 654, 659.
—— intermedius, 191.
—— leucocephalus, (1872) 191, (1875) 391, 412, (App.) 654, 659.
—— rufipes, 391.
hippocrepis (Oriolus), 162.
hirsuta (Athene), 257.
—— (Ninox), 220, 256, 257.
—— (Strix), 144.
Hirundinapus, 129, 149.
—— giganteus, 149, 257.
Hirundo, (1869) 52, (1872) 129, 167, (1875) 349.
—— alpestris, 350.
—— brevirostris, 149, 258.
—— daurica, 349, 350.
—— domicola, 434, 499.
—— erythropygia, 423.
—— esculenta, 149, 258, 259.
—— francica, 149, 259, 588.
—— fuciphaga, (1873) 239, (1874) 259, 260, (1878) 605.
—— gutturalis, (1872) 167, (1873) 243, (1875) 349, 411, (1877) 469, 513, 514, 519, (App.) 657.
—— javanica, (1872) 167, (1876) 423, 434, (1877) 499, 529, 533, (1878) 569, 597, 611, 622, (App.) 657.
—— klecho, 486.
—— longipennis, 486.
—— panayana, 167, 349.
—— rustica, 167, 513.
—— striolata, 350, 654, 657.
—— unicolor, 258.
—— vanicorensis, 149.
hodgii (Thriponax), 238.
hodgsoni (Batrachostomus), 417, 443.
—— (Chrysococcyx), 63.
—— (Megalæma), 18.
—— (Nectarinia), 83.
—— (Otothrix), (1877) 439, 440, 441, 443, 444, 448, 451, 507, 508, 509.
—— (Palæornis), 270.
—— (Prinia), 94, 97, 669.
—— (Thriponax), 103, 313.
holosericeus (Xanthornis), 370.
holospilus (Buteo), 309.
—— (Circaetus), 309.
—— (Hæmatornis), 309.
—— (Spilornis), (1875) 309, 410, (1877) 515, 530, 547, (1878) 596, 630, 646, (App.) 655.
hombroni (Actenoides), (1875) 299, 322, 410, (1878) 635, (App.) 656.
—— (Chalcophaps), 185.
Homochlamys luscinia, 354.
homrai (Buceros), 16, 331.
honoratus (Cuculus), 58, 63, 239.
—— (Eudynamis), (1869) 63, 65, 66, 67, 69, (1873) 239, (1875) 328.

Horeites sericea, 511, 662, 666.
horonata (Eudynamis), 239.
horsfieldi (Æthopyga), 82.
—— (Eurylæmus), 223.
—— (Oriolus), 162.
—— (Picus), 145, 313.
hottentota (Chibia), (1876) 432, (1878) 576, 577, 609.
hugonianus (Ptilopus), 77.
Huhua orientalis, 426.
humeralis (Ceblepyris), 342.
—— (Querquedula), 200.
humii (Megalæma), 486, 487.
humilis (Polioaetus), 139.
—— (Streptopelia), 383.
—— (Turtur), 383, 412, 659.
hybrida (Hydrochelidon), 460, 475, 660.
—— (Sterna), 202, 475.
Hydralector, 129, 192.
—— gallinaceus, 192.
Hydrobata, 54.
Hydrochelidon, 130, 202, 405.
—— sp.?, 406, 413, 660.
—— delalandi, 202.
—— fluviatilis, 202, 405.
—— hybrida, 460, 475, 660.
—— leucopareia, (1872) 202, (1875) 405, 413, (1877) 475.
—— nigra, 202.
Hydrocissa, 150.
—— convexa, 3.
—— malayana, 6.
Hydrocorax, 330.
—— philippinensis, 330.
hydrocorax (Buceros), (1872) 115, (1875) 330, 411, (1877) 467, 468, 517, 550, (1878) 584, (App.) 656.
Hydrophasianus, 132, 394.
—— chirurgus, 394, 412, (App.) 660.
—— sinensis, 395.
Hydrornis nipalensis, 605.
Hyetornis pluvialis, 64.
Hylocharis, 264, 265, 344.
—— luscinia, 203, 344.
—— philomela, 264, 344.
Hyloterpe, (1872) 214, (1874) 264, 265, (1875) 344.
—— fulvitincta, 344.
—— griseiceps, 344.
—— grisola, 263, 419.
—— orpheus, 344.
—— philippinensis, (1872) 234, (1875) 344, 409, 411, (1878) 568, (App.) 656, 666.
Hyloterpe philomela, 264.
—— sulphuriventris, (1872) 126, 214, (1875) 344, (App.) 666.
hyogaster (Accipiter), 137.
—— (Ptilopus), 205.
hyperboreus (Lobipes), 196.
hyperythra (Menetica), 233.
—— (Siphia), 233.
hyperythrus (Cuculus), 327, 637.
hypogastra (Columba), 183.
hypoglaucus (Melittophas), 318.
Hypogramma nuchalis, 79.
hypogrammica (Arachnecthra), 79.
—— (Butalis), 168.
—— (Nectarinia), 231.
hypoleuca (Collocalia), 149.
hypoleucum (Dicæum), 471, 649, 658.
hypoleucus (Actitis), 195, 249.
—— (Elanus), (1872) 134, 139, (1875) 309, 310, 410, (1877) 531, (1878) 630, 646, (App.) 655.
—— (Lanius), 44, 432.
—— (Totanus), 560.
—— (Tringa), 396, 474, 504.
—— (Tringoides), (1875) 396, 412, (1877) 460, 461, 474, 504, 528, 542, (1878) 601, 619, 624, 628, (App.) 660.
hypopinarus (Coccystes), 62.
Hypotænidia, 130, 194, 394.
—— celebensis, 194.
—— ferrea, 267, 541, 666.
—— obscuriora, 541.
—— philippensis, (1872) 194, (1875) 394, 412, (1877) 513, 527, (App.) 660.
—— striata, (1872) 194, 233, (1874) 267, (1875) 394, 412, (1877) 541, 560, (1878) 601, (App.) 660, 666.
—— torquata, (1875) 394, 412, (1877) 527, 541, 560, (1878) 573, 594, 601, (App.) 660.
Hypothymis, (1872) 128, 168, (1875) 347, 348.
—— azurea, (1872) 120, (1873) 243, (1875) 347, 348, 411, (1877) 460, 462, 469, 499, 519, 533, 552, (1878) 568, 590, 610, 639, 648, (App.) 656.
—— cœlestis, (1877) 564, (1878) 566, 568, (App.) 656, 666.
—— menadensis, 168.
—— puella, 168, 206.
—— superciliaris, 648, 657.
—— tytleri, 243.
Hypotriorchis, 129, 136, 306.

Hypotriorchis castanotus, 233.
—— severus, (1872) 136, (1875) 306, 410, (1878) 629, (App.) 655.
—— subbuteo, 117.
hypoxantha (Loxia), 373.
hypoxanthus (Ploceus), 373.
Hypsipetes, 132, 133, 356.
—— m'clellandi, 356.
—— philippinensis, (1875) 356, 411, (1877) 460, 470, 521, 534, 553, (1878) 579, 591, 598, 603, (App.) 657.
—— rufigularis, (1877) 461, 462, 470, 553, (1878) 640, 649, (App.) 657.
Hypurolepsis javanica, 117.

Ianthœnas, 288, 381.
—— griseigularis, (1872) 117, 121, (1875) 381, 412, (1878) 594, 651, (App.) 659, 666.
—— luzoniensis, 381.
—— nicobarica, 288, 666.
—— palumboides, 247, 288.
Ibis, 396.
—— falcinellus, 200.
—— fuscata, 395, 396.
icterocephalus (Phyllornis), 98, 106, 491.
icthyaetus (Polioaetus), 226.
Ierax, 132.
—— erythrogenys, 307.
—— sericeus, 307.
igneus (Falcinellus), 200.
—— (Pericrocotus), 225, 226, 656.
ignicauda (Æthopyga), 82.
ignipectus (Myzanthe), 364.
ignitus (Euplocamus), 232.
immaculatus (Brachypodius), 492, 493.
imperialis (Aquila), 424.
incanus (Scolopax), 474, 601, 624.
—— (Totanus), (1877) 460, 474, 542, (1878) 601, 624, (App.) 660.
incertus (Lanius), 338.
—— (Psittacus), 482.
—— (Psittinus), 482.
incognita (Leucotreron), 543.
—— (Xenotreron), 558.
incognitus (Ptilopus), (1877) 558, 565, (App.) 654, 659, 669.
indica (Certhia), 91, 93.
indica (Chalcophaps), (1872) 186, 211, (1873) 246, (1875) 384, 385, 412, (1877) 503, 525, 538, 559, (1878) 594, 644, 651, (App.) 659.
—— (Columba), 384, 385, 503.
—— (Coracias), 106.
—— (Gracula), 8, 9, 10.
—— (Irena), 97, 107, 671.
—— (Megalæma), 427.
—— (Nemoricola), 263.
—— (Parra), 192.
—— (Psittacula), 49.
—— (Viralva), 202.
—— (Xantholæma), 53, 102, 323.
Indicator sparmanni, 65.
indicator (Cuculus), 65.
indicus (Broderipus), 241.
—— (Bucco), 102, 103.
—— (Butastur), (1845) 2, (1875) 310, 410, (1877) 515, 531, (1878) 607, 621, (App.) 655, 664.
—— (Cuculus), 58, 65.
—— (Falco), 141, 310.
—— (Galgulus), 119, 319.
—— (Gyps), 424.
—— (Limonidromus), 263.
—— (Loriculus), (1871) 101, (1875) 304, (1877) 545, 546, 547.
—— (Oriolus), 162.
—— (Poliornis), 2, 140, 309.
—— (Polytmus), 91.
—— (Porphyrio), 191.
—— (Psittacus), 49.
Indopicus hæmatribon, 314.
indranee (Syrnium), 426.
indus (Haliastur), 117, 309.
inexpectata (Collocalia), 259.
infaustus (Cacomantis), 157.
—— (Cuculus), 157.
infuscata (Corydalla), 363.
infuscatus (Cacomantis), 157.
—— (Cuculus), 157.
innominata (Ceyx), 485.
—— (Collocalia), 239, 259.
innotata (Geocichla), 262, 287, 288.
Inocotis papillosa, 200.
inornata (Gerygone), 359.
—— (Megalæma), 94, 667.
inornatus (Philemon), 205.
insculptus (Buceros), 332.

insidiator (Lanius), 501.
—— (Turdus), 111, 180.
insidiosus (Turdinus), 433.
insignis (Ardea), 197.
—— (Artamus), 627.
—— (Chalcostetha), (1870) 71, 88, 89, 92, (1877) 489, (App.) 658.
—— (Ducula), 416, 417.
—— (Nectarinia), (1870) 88, 93, (1875) 365, (1877) 489, (1878) 616.
—— (Poliohierax), (1871) 113, (1872) 233, (1878) 620, (App.) 669.
insperatus (Cacomantis), 157.
—— (Cuculus), 157.
insularis (Acrocephalus), 606.
—— (Buchanga), 577, 579.
—— (Carpophaga), 379.
intermedia (Arachnecthra), 74.
—— (Ardea), 268, 400.
—— (Buchanga), 23, 419, 664.
—— (Eulabes), (1845) 10, 111, 112, (1873) 246.
—— (Gracula) 10, 666.
—— (Herodias), (1874) 268, (1875) 400, 413, (1878) 645, (App.) 660.
—— (Tiga), 427, 479.
—— (Zosterops), 173, 206.
intermedius (Centropus), 428.
—— (Charadrius), 189.
—— (Dicrurus), 23, 24, 583.
—— (Dissemurus), 581.
—— (Edolius), 497.
—— (Elanus), 139, 309, 310.
—— (Haliastur), (1875) 309, 410, (1877) 460, 461, 462, 463, 477, 515, 531, 547, (1878) 588, 596, 621, 628, (App.) 655.
—— (Himantopus), 191.
interpres (Geocichla), 163.
—— (Strepsilas), (1872) 190, (1873) 248, (1878) 621, 624, (App.) 659.
—— (Tringa), 624.
iodeus (Cinnyris), 72.
iogaster (Accipiter), 137, 138.
—— (Astur), 137, 138.
ogastra (Erythrospiza), 137.
Iole, 132, 296.
—— cinerea, 671.
—— olivacea, 493, 613.
Iora, (1866) 27, 33, 34, 35, (1872) 132, (1875) 296, (1876) 428.
Iora atricapilla, 32.
—— chloris, 227.
—— lafresnayi, 431.
—— nigricapilla, 34, 36.
—— scapularis, (1866) 27, 34, (1877) 490, (1878) 614.
—— typhia, (1866) 27, 34, (1871) 106, (1876) 431.
—— viridis, 614.
—— viridissima, 490.
—— zeylonica, (1866) 27, 35, (1871) 106, (1876) 431.
Iotreron, 129, 183.
—— melanocephala, 134, 183.
Irena, (1871) 96, 97, 107, 108, 109, (1872) 132, 133, (1875) 355, (1876) 428, 431, (1878) 582, 583.
—— criniger, 583.
—— cyanea, (1871) 96, 97, 108, (1878) 583.
—— cyanogastra, (1871) 96, (1875) 293, 355, 411, (1878) 649, (App.) 657.
—— indica, 97, 107, 671.
—— malayensis, 96, 108.
—— melanochlamys, 649, 657.
—— puella, (1870) 96, 97, 107, (1871) 108, (1873) 241.
—— turcosa, (1870) 96, 97, (1871) 107, 108, (App.) 666.
—— tweeddalii, 657.
irena (Pitta), 353.
irwini (Calornis), 418.
isabellina (Rallina), 195.
isabellinus (Lanius) 38, 46, 47.
Ispida bengalensis, 319.
ispida (Alcedo), 485.
Ixus, 132, 133.
—— analis, 355, 491, 521.
—— annectens, 414, 666.
—— chalcocephalus, 37.
—— chrysorrhoides, 272.
—— finlaysoni, 414.
—— goiavier, (1875) 355, 411, (1877) 461, 462, 470, 521, 553, (1878) 568, 591, 598, 622, 640, 649, (App.) 657.
—— hæmorrhous, 34.
—— occipitalis, 355.
—— phæocephalus, 107, 491.
—— sinensis, (1875) 355, 411, (App.) 654, 657.
—— squamatus, 37.
—— urostictus, (1875) 356, 409, 411, (App.) 657.

jacobinus (Coccystes), 578.
—— (Cuculus), 61, 64.
jagori (Dermophrys), 371, 473.
—— (Munia), (1872) 122, (1875) 371, 372, 412, (1877)

462, 473, 524, 537, 558, (1878) 593, 599, 623, 642, (App.) 654, 658.
jagori (Oxycerca), (1875) 372, 412, (1877) 524, (App.) 659.
—— (Uroloncha), 372.
jalla (Pastor), 501.
jambu (Columba), 4.
—— (Ptilopus), 378.
japonica (Athene), 144.
japonicus (Anthus), 522.
—— (Ninox), 144, 631.
jardinii (Circus), 141.
javana (Gracula), 8, 9, 10.
javanensis (Batrachostomus), (1877) 448, 449, 450, 451, 452, 453.
—— (Centrococcyx), (1872) 159, 160, 162, 210, 221, (1875) 330, (1877) 517.
—— (Centropus), 159, 160.
—— (Columba), 384.
—— (Corvus), 501, 617.
—— (Eulabes), 111, 112, 658.
—— (Gracula), 501, 617.
—— (Ketupa), 426.
—— (Picus), 103.
—— (Ploceus), 373.
—— (Podargus), (1877) 443, 450, 452, 454.
—— (Tiga), 479, 607.
javanica (Ardea), 400, 504.
—— (Butorides), (1874) 121, 199, (1873) 251, (1875) 413, (1877) 504, 528, 542, 560, (1878) 573, 602, 619, (App.) 660.
—— (Centrococcyx), 221.
—— (Cinnyris), 90.
—— (Columba), 384, 503.
—— (Hirundo), (1872) 167, (1876) 423, 434, (1877) 499, 529, 533, (1878) 569, 597, 611, 622, (App.) 657.
—— (Hypurolepsis), 117.
—— (Leucocerca), 347, 499.
—— (Mixornis), 228.
—— (Muscicapa), 499.
—— (Nectarinia), 21, 90, 489.
javanicoides (Chalcophaps), 385.
—— (Columba), 385.
javanicus (Acridotheres), 178, 367.
—— (Buceros), 482.
—— (Eurylæmus), 223, 224.
—— (Falco), 140.
—— (Merops), 316.
—— (Palæornis), 236, 427.
—— (Pelecanus), 407.
javanicus (Phœnicophaes), 478.
—— (Turdus), 351.
—— (Zanclostomus), 478.
javanus (Eulabes), 9, 181.
javensis (Batrachostomus), (1877) 438, 439, 440, 442, 444, 448, 450, 451, 452, 506, 507, 508.
—— (Hemilophus), 103.
—— (Meliphaga), 491.
—— (Pallenura), 360.
—— (Phyllornis), 106, 431, 491.
—— (Picus), (1871) 103, (1872) 144, (1875) 313, (1877) 479.
—— (Podargus), 449, 450, 507.
—— (Thriponax), (1871) 103, (1875) 313, 410, (1877) 479, 515, 548, (1878) 595, 596, 633, 646, (App.) 655.
jeracopis (Lanius), 47, 336.
jerdoni (Cyornis), 215, 216.
—— (Ephialtes), 97, 665.
—— (Phyllornis), 431.
—— (Timelia), 216, 670.
jocosa (Otocompsa), 241.
jotaka (Caprimulgus), 257.
jugiferus (Passer), 370.
jugularis (Arachnecthra), (1870) 75, 76, 77, 92, (1871) 105, (1875) 364, 365, 411, (1877), 460, 462, 472, 514, 524, 537, 556, (1878) 571, 592, 599, 615.
—— (Ardea), 250.
—— (Certhia), (1866) 20, (1870) 76, 77, 87, 92, (1875) 365, (1877) 472.
—— (Cinnyris), 615, 658.
—— (Cyrtostomus), 615, 642, 650.
—— (Demiegretta), 250.
—— (Meiglyptes), 427.
—— (Nectarinia), (1866) 19, 20, (1870) 75, 77, (1876) 430.
Juida morio, 117.
juliæ (Cinnyris), 641, 658.
—— (Nectarophila), (1877) 460, 461, 471, (1878) 641, (App.) 668.

kasumba (Harpactes), 101, 486.
—— (Trogon), 486.
kelaarti (Munia), 54.
Keroula, 109.
Ketupa, 132, 296.
—— ceylonensis, 426.
—— javanensis, 426.
kieneri (Limnaetus), (1875) 308, (1876) 424, 425, 426.
—— (Spizaetus), 308.
kisuki (Yungipicus), 145, 209.

Kittacincla, 358.
—— albiventris, 242.
—— macrura, 27, 111.
—— suavis, 230.
kittlitzi (Calornis), 180.
klecho (Hirundo), 486.
—— (Macropteryx), 148, 149.
kochi (Erythropitta), 605, 657.
—— (Pitta), 605.
kori (Otis), 388, 389.
Krimnochelidon, 434.
kuhli (Nectarinia), 83.
kundoo (Oriolus), 210.

labecula (Cinnyris), 80.
læmostictus (Dicrurus), 610.
lafresnayi (Iora), 431.
lagunensis (Graucalus), 341, 342.
Lalage, (1872) 129, 170, 171, (1875) 343, 344.
—— aurea, 171, 205.
—— dominica, (1872) 171, (1875) 343, 411, (1877) 460, 469, 496, 514, 518, 533, 552, (1876) 568, 590, 597, 622, 639, 647, (App.) 656.
—— leucopygialis, (1872) 170, 171, 206, (App.) 666.
—— melanoleuca, 171.
—— terat, 343.
—— uropygialis, 344.
Lamprococcyx, 61, 63.
—— auratus, 65.
—— cupreus, 65.
—— lucidus, 65.
—— maculatus, 65.
Lampromorpha amethystina, 327.
Lamprotornis cantor, 180.
—— columbina, 180.
—— magnus, 369.
—— metallica, 180.
—— minor, 181.
—— obscura, 180.
—— panayensis, 369.
—— pyrrhogenys, 367.
—— pyrrhopogon, 178, 368.
Lamprotreron, 129, 183.
—— formosa, 183.
lanceolata (Locustella), 262.
—— (Lusciniola), 262.
lanceolatus (Cacomantis), 156, 158.
—— (Limnaetus), 138, 208, 255.
Lanicterus, 170.
Lanius, (1867) 38, 45, (1869) 52, (1872) 132, 133, (1877) 496.
—— albus, 339.
—— anderssoni, 46, 48.
—— antiguanus, 51, 335, 654.
—— arenarius, (1867) 38, 46, 48, (1869) 55.
—— a-scack, 336.
—— bentet, 43, 336.
—— bres, 107.
—— bucephalus, 38, 42.
—— cephalomelas, 50, 51, 335.
—— chinensis, 26, 336.
—— collaris, 122.
—— collurio, 38, 42.
—— collurioides, 43, 432.
—— crassirostris, 44, 45, 56.
—— cristatus, (1867) 38, 39, 40, 43, 45, 46, 47, 48, (1869) 55, (1871) 109, (1875) 337, 338, 339.
—— dominicanus, 32, 168, 421.
—— dubius, 181.
—— erythronotus, 336.
—— excubitor, 42.
—— ferox, 44, 45, 56.
—— ferrugiceps, 39.
—— fuscatus, 50, 51.
—— gularis, 109.
—— hiemalis, 39.
—— hypoleucus, 44, 432.
—— incertus, 338.
—— insidiator, 501.
—— isabellinus, 38, 46, 47.
—— jeracopis, 47, 336.
—— leucogaster, 32, 168.
—— leucorhynchus, (1866) 32, (1872) 168, 169 (1875) 340, (1876) 420, 421, (1877) 496.
—— leucorynus, 339, 468.
—— lucionensis, (1867) 38, 40, 42, 48, 49, (1871) 109, (1875) 243, 336, 337, 338, 409, 411, (1877) 460, 468, 518, 532, (1878) 597, 603, 609, 622, 638, (App.) 656.
—— lugubris, 51.
—— macrurus, 336.
—— magnirostris, (1867) 38, 44, 45, 48, (1869) 56, (1871) 109.
—— malabaricus, 497.
—— manillensis, (1866) 32, (1872) 168, (1875) 339, 340, (1876) 421, (1878) 626.
—— melanocephalus, 37, 492, 613.
—— melanotis, 39, 46.
—— melanthes, 50.

Lanius musicus, 120.
—— nasutus, (1869) 51, (1875) 335, 336, 411, (1877) 518, 532, (1878) 597, 621, 622, 638, (App.) 654, 656.
—— nigriceps, (1869) 51, (1875) 335, 336, (1877) 518, 532.
—— pacificus, 180.
—— panayensis, 339.
—— philippinus, 339, 421.
—— phœnicurus, (1867) 38, 39, 40, 41, 42, 43, 48, (1869) 56, (1871) 109, (1875) 336, 337.
—— pyrrhonotus, 336.
—— ruber, 339.
—— rutilans, 43.
—— schach, (1868) 50, (1875) 336, 411, (App.) 654, 656.
—— schwaneri, 45, 48, 338.
—— silens, 170.
—— striga, 496.
—— strigatus, 44, 45.
—— superciliosus, (1867) 38, 39, 42, 43, 45, 46, 48, (1869) 56, (1875) 337, 338.
—— tephronotus, 51.
—— tigrinus, 44, 45.
—— tricolor, 335, 336, 532.
—— virgatus, 44.
—— vittatus, 109.
—— waldeni, 109.
—— xanthogaster, 498.
lapponica (Limosa), 621, 624, 660.
Larus, 405.
—— sp., 405, 413, 475.
—— ridibundus, (1875) 405, (1877) 460, 475, (App.) 660.
Larvivora cyanea, 90.
lateralis (Zosterops), 265, 490, 536.
lathami (Æthopyga), 104, 231.
—— (Bucco), 102.
—— (Caloramphus), 102.
—— (Falco), 425.
—— (Nectarinia), 81, 104.
—— (Palæornis), 236, 281.
—— (Polophilus), 161.
latirostris (Alseonax), 242.
—— (Butalis), (1873) 242, (1875) 348, (1878) 586, 590, (App.) 657.
—— (Hemichelidon), 242.
—— (Muscicapa), 242, 590.
layardi (Geocichla), 96, 666.
—— (Graucalus), 245.
leclancheri (Dicæum), 173.
leclancheri (Ptilopus), 654, 659.
lemniscatus (Cymbirhynchus), 499.
—— (Eurylæmus), 224, 499.
lempiji (Scops), 633.
Lempijius, 312.
—— megalotis, (1875) 312, 409, 410, (App.) 655.
lempijius (Ephialtes), 97.
lepida (Anthreptes), 90.
—— (Ardea), 198.
—— (Certhia), 83, 90, 91.
—— (Cinnyris), 84, 90.
—— (Nectarinia), 90.
Lepidogrammus, 298, 329.
—— cumingi, (1875) 329, 411, (1877) 517, (App.) 656.
lepidus (Centrococcyx), 159.
—— (Centropus), 159, 160, 162.
Lepocestes porphyromelas, 7.
Leptocoma, 21, 83.
—— braziliana, 20, 21.
leptogrammica (Macropygia), (1872) 185, 205, (1873) 247, (1875) 417, 419.
Leptopteryx leucorhynchus, 32, 169, 340.
Leptosomus afer, 64.
Lerwa nivicola, 53.
leschenaulti (Henicurus), 419, 494.
—— (Merops), 238.
lessoni (Dacelo), 522.
Lestris, 405.
—— crepidata, 405.
—— hardyi, 405.
—— parasiticus, 405.
leucocampter (Saxicola), 358.
leucocephala (Alcedo), 30, 321, 484.
—— (Ardea), 200.
—— (Loxia), 112.
—— (Pelargopsis), (1872) 222, (1875) 321, (1877) 484, (1878) 647, (App.) 655.
leucocephalus (Buceros), 331.
—— (Craniorrhinus), (1875) 331, 409, 411, (1877) 550, (App.) 656.
—— (Halcyon), 435.
—— (Himantopus), (1872) 191, (1875) 391, 412, (App.) 644, 659.
Leucocerca, 132, 347.
—— javanica, 347, 499.
—— nigritorquis, (1875) 347, 411, (1877) 519, 533, 552, (1878) 568, 590, 622, 639, 648.
leucogaster (Artamus), (1866) 32, (1872) 168, 169, (1875) 340, (1876) 420, 422, (1878) 625.

leucogaster (Cinnyris), 72, 91.
—— (Cuncuma), (1872) 117, 139, (1875) 309, 410, (App.) 655.
—— (Dicrurus), 578, 583.
—— (Falco), 309.
—— (Garrulax), 26, 48.
—— (Haliaetus), 255.
—— (Lanius), 32, 168.
—— (Ocypterus), 32.
—— (Oriolus), 228.
—— (Picus), 145, 313.
—— (Pomatorhinus), 563.
leucogastra (Munia), 266, 525, 659.
—— (Oxycerca), 510, 617.
leucogastroides (Munia), (1868) 54, (1874) 265, 266, (1877) 477, 500.
leucogenys (Buchanga), (1870) 94, (1878) 574, 578, 579, (App.) 664.
leucolophus (Garrulax), 26, 48.
leucomelas (Pogonorhynchus), 324.
—— (Puffinus), (1875) 405, 413, (1877) 514, (App.) 660.
leuconota (Fringilla), 265.
—— (Munia), 54, 265.
leucopareia (Hydrochelidon), (1872) 202, (1875) 405, 413, (1877) 475.
—— (Sterna), 405.
leucophæa (Buchanga), (1866) 23, (1870) 95, (1877) 477, 498, (1878) 578, 610, (App.) 656, 664.
—— (Climacteris), 205.
—— (Macropteryx), 149.
leucophæus (Dicrurus), (1866) 23, (1870) 94, (1877) 498, (1878) 578, 579, 583, 610.
leucophthalmus (Psittacus), 304, 305.
leucoprocta (Niltava), 668.
leucoproctum (Trichostoma), 437, 670.
leucops (Dicrurus), 171, 577, 610.
leucoptera (Ardeola), 197, 198, 268.
—— (Pitta), 352.
—— (Sylvia), 33.
leucopterus (Platysmurus), 500.
leucopygialis (Artamus), (1866) 31, 32, (1872) 168, (1873) 243.
—— (Buchanga), 579.
—— (Dicrurus), 50, 346.
—— (Lalage), (1872) 170, 171, 206, (App.) 666.
leucopygius (Graucalus), 170.
leucorhynchus (Artamus), (1866) 32, (1872) 168, 169, 225, (1873) 243, (1875) 340, 420, (1877) 462, 496, 518, (1878) 622, 625, 626, 627, 628, 646, (App.) 656.
leucorhynchus (Lanius), (1866) 32, (1872) 168, 169, (1875) 340, (1876) 420, 421, (1877) 496.
—— (Leptopteryx), 32, 169, 340.
—— (Ocypterus), 421.
leucorodia (Platalea), 402, 403.
leucorynus (Artamus), (1875) 339, 411, (1877) 460, 468, 532, 552, (1878) 589, 597.
—— (Lanius), 339, 468.
leucospila (Ephialtes), 142, 143.
leucospilus (Scops), 633.
leucosternus (Haliaetus), 139, 309.
leucotis (Chlorœnas), 378.
—— (Columba), 378.
—— (Niltava), 273.
—— (Phabotreron), (1875) 378, (1877) 525, 538, 559, (1878) 643, (App.) 659.
—— (Phapitreron), 378, 412.
—— (Timelia), 354, 433.
—— (Turdinus), 433.
Leucotreron, 129, 183, 377.
—— gironieri, (1875) 377, 409, 412, (1878) 593.
—— gularis, 183, 377.
—— incognita, 543.
leucura (Niltava), 509, 668.
levaillanti (Corvus), 245, 502.
lewini (Rallus), 194.
lichtensteini (Picus), 314.
lignator (Centrococcyx), 159.
—— (Centropus), 159, 161.
limborgi (Chrysococcyx), 437, 664.
Limicola platyrhyncha, 621, 624, 660.
Limnaetus, (1872) 128, 138, (1875) 308, (1876) 425.
—— albigularis, 426.
—— albiniger, 255, 425.
—— andamanensis, 255.
—— ceylonensis, 255, 308.
—— cirrhatus, 255.
—— cristatellus, 425.
—— kieneri, (1875) 308, (1876) 424, 425, 426.
—— lanceolatus, 138, 208, 255.
—— nipalensis, 255.
—— niveus, 424.
—— philippensis, (1875) 308, 408, 410, (1878) 587, (App.) 655.
limnicola (Tigrisoma), 401.
Limnocinclus acuminatus, 544, 560, 660.
limnophilax (Nycticorax), 401, 402.

Limonidromus indicus, 263.
Limosa, 130, 196.
—— ægocephala, 586, 594, 660.
—— lapponica, 621, 624, 660.
—— uropygialis, 196.
limosa (Scolopax), 396.
linchi (Collocalia), (1873) 239, (1874) 259, 260, (1875) 325, (1878) 605.
lindsayi (Actenoides), (1875) 299, 322, 410, (1877) 516, (App.) 656.
—— (Dacelo), 322.
lineata (Ceblepyris), 342, 343.
—— (Excalfactoria), 387.
—— (Megalæma), 18.
lineatus (Capito), 324.
—— (Graucalus), 245, 342, 343.
—— (Oriolus), 387.
—— (Rallus), 394.
lineocapilla (Cisticola), 166.
linnei (Eclectus), 305.
Linota brevirostris, 55.
—— montium, 55.
—— pygmæa, 53.
Lioptila, 417.
—— saturata, 667.
Liothrix, 417.
Lithofalco fieldeni, 233, 620.
littoralis (Columba), 380.
liventer (Butastur), 419.
—— (Poliornis), 140.
Lobipes, 130, 196.
—— hyperboreus, 196.
Locustella lanceolata, 262.
—— minuta, 262.
—— raii, 262.
—— subsignata, 262.
Lonchura melanocephala, 372.
longicaudata (Buchanga), 23, 578.
—— (Pnoepyga), 292.
longicaudatus (Dicrurus), 24, 671.
—— (Palæornis), 218, 274.
longicollis (Ardea), 398.
longipennis (Hirundo), 486.
—— (Macropteryx), 486.
longipes (Charadrius), 389.
longirostra (Arachnothera), 172, 487, 488.
—— (Certhia), 487, 488.
—— (Rhizothera), 232.
longirostris (Criniger), 126.
Lophochroa minor, 300.
Lophocitta, 111.
—— galericulata, 111.
lophorhinus (Dicrurus), 50, 580.
—— (Dissemuroides), 580.
—— (Dissemurus), 575, 581.
Lophospiza, 128, 137, 307.
—— griseiceps, 137.
—— trivirgata, 307, 410, 655.
Lophotes reinwardti, 140.
lophotes (Baza), 425, 426.
Loriculus, (1872) 124, 128, 131, 136, (1875) 302, 303, 304, (1878) 595.
—— amabilis, 131.
—— apicalis, (1875) 303, 304, (1877) 545, 547.
—— asiaticus, 17.
—— bonapartei, 546.
—— chrysonotus, (1875) 299, 304, 410, (1877) 463, 530, 547, (App.) 655.
—— cyanolæmus, 545.
—— exilis, 136.
—— flosculus, 131.
—— galgulus, (1866) 17, (1867) 49, (1871) 101, (1877) 482.
—— hartlaubi, (1875) 299, 303, 304, 410, (1877) 545, 546, 547, (1878) 566, 595, 621, 628, 646, (App.) 655.
—— indicus, (1871) 101, (1875) 304, (1877) 545, 546, 547.
—— melanopterus, (1875) 303, 304, (1877) 545, 547.
—— occipitalis, (1875) 299, 303, 410, (App.) 653, 654, 655.
—— panayensis, (1877) 460, 461, 462, (App.) 655, 667.
—— phillipensis, (1875) 299, 303, 304, 410, (1877) 547, (App.) 655.
—— pusillus, 131.
—— quadricolor, 125, 207, 667.
—— regulus, (1875) 299, 303, 304, 410, (1877) 462, 463, (1878) 587, (App.) 654, 655, 667.
—— sclateri, 124, 136.
—— stigmatus, 124, 131, 136.
—— vernalis, 17, 101, 236.
—— wallacii, 125.
Lorius, 132, 133.
—— garrulus, 306.
—— philippensis, 306.
—— tricolor, 306.
lory (Psittacus), 306.

lotenia (Arachnecthra), (1866) 20, (1870) 73, 74, 78, 92.
—— (Certhia), 20, 92, 93.
—— (Cinnyris), 615.
—— (Cyrtostomus), 615.
—— (Nectarinia), 74.
lowii (Megapodius), 539, 540.
—— (Sarcops), 658.
Loxia albiventris, 265.
—— atricapilla, 371.
—— hypoxantha, 373.
—— leucocephala, 112.
—— maculata, 373, 500.
—— maja, 500.
—— malacca, 54, 371.
—— melaleuca, 340.
—— oryzivora, 371, 500.
—— philippina, 373, 500.
—— punctularia, 29.
—— rubronigra, 174.
—— sinensis, 112.
—— striata, 24, 265.
—— undulata, 29.
loxia (Cyclopsitta), 301, 545.
—— (Psittacus), 301, 302, 514.
loxias (Psittacus), 301, 302.
lucidus (Carbo), 408.
—— (Chrysocolaptes), (1875) 314, 410, (1877) 461, 462, 463, 464, 513, 548, (1878) 603, 633, (App.) 655.
—— (Cuculus), 61, 65.
—— (Lamprococcyx), 65.
—— (Phalacrocorax), 408.
—— (Picus), 314, 463.
lucionensis (Enneoctonus), 39.
—— (Lanius), (1867) 38, 40, 42, 48, 49, (1871) 109, (1875) 243, 336, 337, 338, 409, 411, (1877) 460, 468, 518, 532, (1878) 597, 603, 609, 622, 638, (App.) 656.
—— (Otomela), 40.
—— (Psittacus), 301, 462.
—— (Rubetra), 357.
luconensis (Eclectus), 301.
luçoniensis (Otis), 389.
luctuosa (Carpophaga), 184.
—— (Ceblepyris), 345.
—— (Myristicivora), 184, 381.
—— (Orgya), 358.
ludoisia (Æthopyga), 82.
ludwigi (Dicrurus), 576.
lugubris (Ceblepyris), 170.
—— (Corydalla), (1875) 362, 411, (1876) 460, 462, (1877) 471, 495, 514, 521, 535, 555, (1878) 592, 604, 623, (App.) 658, 664.
—— (Cuculus), 478, 608.
—— (Gallinula), 392.
—— (Lanius), 51.
—— (Ninox), 627, 631, 655.
—— (Phyllopneuste), 657.
—— (Phylloscopus), 657.
—— (Strix), 144, 631.
—— (Surniculus), 222, 608, 656.
lunulata (Cyclopsitta), (1875) 301, 410, (1877) 514, 545, (1878) 628, (App.) 655.
lunulatus (Psittacus), 301, 302.
luridus (Picus), 104.
luscinia (Homochlamys), 354.
—— (Hylocharis), 203, 344.
Lusciniola lanceolata, 262.
luteiventris (Cinnyris), 75.
luteus (Bucco), 323.
luzonensis (Motacilla), 362, 411, 658.
—— (Platalea), 403.
—— (Tanygnathus), (1875) 301, 410, (1877) 460, 462, 529, 530, 544, (1878) 587, 595, 607, 628, 646, (App.) 655.
—— (Trogon), 24.
luzonica (Alcedo), 321.
—— (Anas), 404, 413, 660.
—— (Columba), 384.
—— (Phlegœnas), (1872) 133, (1875) 384, 412, (1877) 525, (App.) 659.
luzoniensis (Ceyx), 320.
—— (Cittocincla), 358, 411, 657.
—— (Ianthœnas), 381.
—— (Numenius), 395.
—— (Parra), 395.
—— (Scolopax), 395.
—— (Tetrao), 387.
—— (Turdus), 358.
—— (Turtur), 383.
Lycocorax, 133.
Lycos, 175.
Lyncornis, (1872) 128, 150, (1875) 325, (1878) 635.
—— cerviniceps, 209.
—— macropterus, 150, 209.
—— macrotis, (1872) 209, (1875) 325, 410, (1878) 635, (App.) 656.
—— mindanensis, (1878) 627, 635, 656, (App.) 667.

Lyncornis temmincki, (1845) 12, (1872) 209, 223, (1877) 486, (1878) 635, 664.
macassariensis (Certhia), 91, 93.
—— (Macropygia), 185.
macei (Graucalus), 23, 244, 245.
—— (Picus), 427.
macgregoriæ (Niltava), 432.
Machæramphus, 233.
Machærirhynchus, 133.
Machlolophus, 363, 522.
—— elegans, 363, 411, 522.
mackloti (Cinnyris), 88.
—— (Harpactes), 101.
Macrocephalon, 188.
—— maleo, 187.
macrocerca (Buchanga), 577.
macrocercus (Dicrurus), 577.
macrodactylus (Turdinus), 98, 433.
Macronus, 132, 296, 574.
—— ptilosus, 227, 493.
—— striaticeps, (1877) 553, (1878) 569, 573, 640, (App.) 657.
macropterus (Circus), 141.
—— (Lyncornis), 150, 209.
Macropteryx, (1872) 129, 148, (1875) 324, (1876) 434.
—— comatus, (1875) 324, 410, (1877) 486, 532, 549, (1878) 635, (App.) 656.
—— klecho, 148, 149.
—— leucophæa, 149.
—— longipennis, 486.
—— wallacii, 149.
Macropygia, 112, 129, 185.
—— albicapilla, 185.
—— amboinensis, 247.
—— emiliana, 247, 382.
—— eurycerca, (1878) 586, 594, 643, 651, (App.) 659, 666.
—— leptogrammica, (1872) 185, 205, (1873) 247, (1875) 417, 419.
—— macassariensis, 185.
—— phasianella, 247, 382.
—— ruficeps, 112.
—— rufipennis, 247.
—— tenuirostris, (1873) 247, (1875) 382, 412, (1878) 594, (App.) 659.
—— tusalia, 247, 417.
macrorhyncha (Pitta), 352.
macrorhynchus (Corvus), 501, 502.
—— (Cymbirhynchus), 434, 499, 648.
macrorhynchus (Todus), 499.
macrotis (Caprimulgus), 325.
—— (Lyncornis), (1872) 209, (1875) 325, 410, (1878) 635, (App.) 656.
macrura (Cittocincla), 494.
—— (Kittacincla), 27, 111.
—— (Muscicapa), 349.
macrurus (Caprimulgus), (1872) 212, 213, (1874) 257, (1875) 326.
—— (Lanius), 336.
—— (Turdus), 27, 358, 494.
macularia (Anthreptes), 79.
—— (Arachnecthra), 231.
maculata (Ardea), 199.
—— (Erythrosterna), 432.
—— (Loxia), 373, 500.
maculatus (Anthus), (1877) 513, 522, (1878) 606, 615, (App.) 658.
—— (Chrysococcyx), 428.
—— (Corydonix), 161.
—— (Cuculus), (1869) 61, 64, 67, (1876) 428.
—— (Dendromanthus), 522.
—— (Eudynamis), 64, 328.
—— (Lamprococcyx), 65.
—— (Picus), 315, 633, 634.
—— (Pipastes), 522.
—— (Ploceus), 500.
—— (Prionochilus), 230.
—— (Trogon), 63, 65.
—— (Yungipicus), (1875) 315, 410, (1877) 515, (App.) 655.
maculiceps (Chrysocolaptes), (1877) 463, 464, 513, (1878) 633.
madagascariensis (Coua), 64.
—— (Cuculus), 62, 64.
—— (Ninox), 144.
—— (Scops), 143.
magicus (Ephialtes), 142, 143.
—— (Otus), 142.
magna (Arachnothera), 18, 53, 429.
—— (Cinnyris), 18.
—— (Tringa), 267.
magnifica (Æthopyga), (1877) 530, 537, (1878) 593, (App.) 658.
magnirostris (Acrocephalus), 165.
—— (Alcippe), 511, 661, 663.
—— (Avicida), 310.
—— (Baza), (1872) 140, (1875) 310, 410, (App.) 655.
—— (Charadrius), 190, 191.

magnirostris (Esacus), (1872) 190, 191, (1875) 390, 393, 412, (App.) 659.
—— (Lanius), (1867) 38, 44, 45, 48, (1869) 56, (1871) 109.
—— (Œdicnemus), 190, 390.
—— (Palæornis), 235, 275.
—— (Phyllopneuste), 359, 411.
—— (Phylloscopus), 359, 513, 522, 535.
magnum (Malacopterum), 493.
magnus (Lamprotornis), 369.
—— (Schœniclus), 267.
mahrattensis (Acridotheres), 29.
—— (Arachnecthra), 74.
—— (Caprimulgus), 434.
—— (Certhia), 72, 74.
—— (Nectarinia), 73.
—— (Pastor), 29.
—— (Picus), 427.
maja (Loxia), 500.
—— (Munia), 112, 500.
majanoides (Fringilla), 112.
—— (Munia), 500.
major (Crotophaga), 65.
majoroides (Picus), 427.
majus (Malacopterum), 493.
malabarica (Muscicapa), 497.
—— (Vinago), 376.
malabaricus (Buceros), 4.
—— (Dissemurus), (1877) 497, (1878) 575, 580, 581.
—— (Lanius), 497.
—— (Phyllornis), 106, 491.
—— (Scops), 97, 665.
malabaroides (Dissemurus), 581.
malacca (Loxia), 54, 371.
—— (Munia), 112.
malaccensis (Anthothreptes), 430, 557.
—— (Anthreptes), (1870) 87, 90, (1872) 172, (1877) 489, (1878) 616, (App.) 658.
—— (Ardeola), 197, 198.
—— (Athene), 144.
—— (Brachypteryx), 612.
—— (Callolophus), 479, 480.
—— (Certhia), 21, 489, 616.
—— (Chrysophlegma), 103.
—— (Columba), 112.
—— (Cymbirhynchus), 499.
—— (Drymocataphus), 612.
—— (Nectarophila), 105.
—— (Ninox), 256, 257.
malaccensis (Nyctiornis), 486.
—— (Palæornis), 218.
—— (Picus), 103, 479.
—— (Pitta), 22.
—— (Psittacus), 484.
Malacopterum, 132, 296.
—— magnum, 493.
—— majus, 493.
malacoptilus (Rimator), 433.
malayana (Corydalla), 122.
—— (Eudynamis), (1869) 66, 67, 69, (1873) 239, (1875) 328.
—— (Hydrocissa), 6.
malayanus (Anthus), 362.
—— (Buceros), 516, 664.
—— (Chalcococcyx), 636.
—— (Cuculus), 636.
—— (Nisaetus), 2, 668.
—— (Scops), 3, 669.
malayensis (Anthus), 28, 495.
—— (Chaptia), 498, 597, 671.
—— (Corydalla), 495, 555.
—— (Dissemurus), 110, 671.
—— (Edolius), 497.
—— (Hierax), 218.
—— (Irena), 96, 108.
—— (Neopus), 138.
—— (Ninox), 220.
—— (Pastor), 368.
maleo (Macrocephalon), 187.
—— (Megacephalon), 187, 290.
Malurus marginalis, 354, 520.
manilla (Turdus), 164.
manillæ (Buceros), 334.
—— (Penelopides), (1875) 299, 334, 411, (1877) 514, 517, 551, (1878) 597, (App.) 656.
manillensis (Anas), 404.
—— (Artamus), 32.
—— (Buceros), 334.
—— (Butalis), (1875) 348, 411, (1877) 519, (App.) 657.
—— (Caprimulgus), (1875) 326, 410, (1878) 635, 647, (App.) 656.
—— (Certhia), 88, 93, 365.
—— (Chalcostetha), 89, 93.
—— (Lanius), (1866) 32, (1872) 168, (1875) 339, 340, (1876) 421, (1878) 626.
—— (Monticola), 357.
—— (Muscicapa), 349.
—— (Nisus), 308.

manillensis (Nycticorax), (1872) 199, (1875) 400, 413, (1877) 542, (1878) 594, 602, 651, (App.) 660.
—— (Pelecanus), 407.
—— (Picus), 315.
—— (Psittacus), 305.
—— (Tantalus), 395, 396.
—— (Tetrao), 387.
—— (Turdus), 165.
mantis (Scops), 205, 256.
Manucodia, 132, 133.
manyar (Ploceus), 373.
Mareca, 130, 201.
—— albigularis, 251.
—— gibberifrons, 201, 251.
—— punctata, 201, 251.
marginalis (Malurus), 354, 520.
marginata (Zoothera), 433.
marginatus (Dicrurus), 583.
—— (Meiglyptes), 104.
—— (Psittacus), 301.
mariæ (Pomatorhinus), 41, 51, 669.
mauritianus (Turdus), 180.
maurus (Circus), 117.
maximus (Artamus), 626.
m'clellandi (Hypsipetes), 356.
media (Sterna), 504.
medius (Centrococcyx), 159, 160, 162.
—— (Centropus), 158, 159.
—— (Pelecanopus), 203.
Megacephalon, 130, 187, 188.
—— maleo, 187, 290.
—— rubripes, 187, 188.
—— rufipes, 187.
megala (Gallinago), (1872) 197, (1875) 397, 398, 412, (1877) 542, (1878) 601, 644, (App.) 660.
Megalæma, 52, 132, 296.
—— caniceps, 94.
—— chrysopogon, 487.
—— franklini, 413.
—— hodgsoni, 18.
—— humii, 486, 487.
—— indica, 427.
—— inornata, 94, 667.
—— lineata, 18.
—— mystacophanes, 486.
—— philippensis, 323, 427.
—— ramsayi, 413, 667.
—— versicolor, 487.
—— virens, 102.
Megalorhynchus hayi, 102.
megalornis (Dissemurus), 581.
megalotis (Ephialtes), 312.
—— (Lempijius), (1875) 312, 409, 410, (App.) 655.
Megalurus, 132, 353, 354.
—— palustris, (1875) 353, 411, (1877) 419, 520, (App.) 657.
—— ruficeps, (1877) 509, 513, 520, 530, 534, (1878) 591, 649, (App.) 657.
Megapodius, (1872) 129, 131, 133, 187, (1875) 295, 388.
—— cumingi, (1872) 133, (1875) 388, 412, (1877) 539, 540, (1878) 619, (App.) 659.
—— dillwynni, (1875) 388, 412, (1877) 540, (1878) 644, 651, (App.) 659, 667.
—— gilberti, 187.
—— lowii, 539, 540.
—— nicobariensis, 289.
—— pusillus, (1877) 529, 539, (1878) 659, (App.) 667.
—— rubripes, 187.
—— ruficeps, 388.
—— trinkutensis, 289.
megarhynchus (Dicranostreptus), 580, 581.
—— (Dicrurus), 610.
—— (Dissemurus), 575.
Meiglyptes, 132, 296.
—— jugularis, 427.
—— marginatus, 104.
—— tristis, 221, 480.
—— tukki, 480.
melaleuca (Loxia), 340.
—— (Saxicola), 357.
melaleucus (Artamus), (1872) 169, (1875) 340, (1876) 420, 422, (1878) 626.
melanauchen (Onychoprion), (1866) 32, (1872) 202, (1874) 269, (App.) 660.
—— (Sterna), 32.
melanictera (Munia), 266.
—— (Muscicapa), (1866) 33, 35, 36, 37.
—— (Pseudolalage), 44.
—— (Rubigula), 35.
melanicterus (Meropixus), 37.
melanocephala (Citta), 352.
—— (Columba), 642.
—— (Iotreron), 134, 183.
—— (Lonchura), 372.
—— (Pitta), 164.
melanocephalus (Brachypodius), (1873) 241, (1877) 492, (1878) 613, (App.) 657.

melanocephalus (Lanius), 37, 492, 613.
—— (Oriolus), (1866) 27, (1874) 261, 262, (1875) 350, 351.
—— (Ptilopus), (1872) 183, (1878) 627, 642, 650, (App.) 659.
—— (Sparactes), 372.
—— (Turdus), 492.
melanochlamys (Irena), 649, 657.
Melanochlora sultana, 28.
melanogaster (Cuculus), 62.
—— (Piaya), 64.
—— (Picus), 7, 669.
—— (Plotus), (1872) 116, 205, (1876) 408, 413, (App.) 660.
melanogenys (Falco), 306.
melanognathus (Cuculus), 102, 478.
melanoleuca (Edoliosoma), 170.
—— (Lalage), 171.
—— (Pseudolalage), (1875) 343, 409, 411, (App.) 656.
—— (Sibia), 433.
melanoleucus (Circus), (1872) 117, (1875) 310, 410, (App.) 654, 655.
—— (Coccystes), 64.
—— (Cuculus), 61, 64.
—— (Falco), 310.
—— (Hierax), 307.
—— (Phalacrocorax), 204.
melanolopha (Ardea), 401.
melanolophus (Gorsachius), (1875) 401, 402, 413, (App.) 660.
melanope (Calobates), (1875) 360, 361, 411, (1877) 461, 462, 470, 495, 523, 535, (1878) 598.
—— (Motacilla), 360, 470, 495, (App.) 658.
Melanopelargus, 130, 200.
—— episcopus, (1872) 200, (1878) 600, 645, (App.) 660.
melanophis (Ardea), 198.
melanopis (Tantalus), 396.
Melanopitta, 164, 352, 353.
—— cucullata, 640.
—— forsteni, 164.
—— muelleri, 227, 640.
—— propinqua, 657.
—— sordida, (1875) 351, 411, (1878) 639, (App.) 657.
—— steerii, 640, 657.
melanops (Centropus), 158, 330.
—— (Eumyias), 432.
—— (Glaucomyias), 93.
—— (Pyrrhocentor), (1875) 330, 411, (1877) 550, (1878) 637, 647, (App.) 656.
melanoptera (Alcedo), 321.
—— (Ardea), 198.
—— (Entomobia), 321.
melanopterus (Elanus), 309.
—— (Loriculus), (1875) 303, 304, (1877) 545, 547.
—— (Porphyrio), 191.
—— (Psittacus), 303, 304, 305.
—— (Sturnopastor), 339.
melanorhyncha (Eudynamis), (1869) 60, 69, 70, (1872) 156, 210.
—— (Pelargopsis), 148.
melanorhynchus (Cuculus), 65.
—— (Palæornis), (1874) 235, 274, 281, 283, (1875) 292, (1876) 427.
melanotis (Ardea), 198.
—— (Lanius), 39, 46.
—— (Pterythrius), 54.
melanthes (Lanius), 50.
melanura (Ceyx), 320, 410, 655.
—— (Zosterops), 364.
melaschistus (Volvocivora), 170.
Melias diardi, 156, 478.
Meliphaga, 133.
—— javensis, 491.
—— mystacalis, 365.
Melittophagus, 209.
—— bullockoides, 209.
—— forsteni, 209.
—— minutus, 209.
Melittophas bicolor, 318.
—— hypoglaucus, 318.
Mellidora, 133.
menadensis (Ephialtes), 134, 143.
—— (Hypothymis), 168.
—— (Muscicapa), 348.
—— (Turacœna), 185.
Menetica hyperythra, 233.
meninting (Alcedo), (1872) 148, (1874) 260, (1875) 418, (1877) 485.
menstruus (Picus), 314, 315.
mentalis (Artamus), 169.
—— (Callolophus), 479.
—— (Picus), 479.
Meropixus, 35, 37.
—— atricapillus, 36.
—— melanicterus, 37.
Meropogon, 130, 146.
—— forsteni, 146, 209.
Merops, (1868) 52, (1872) 116, 129, 145, 209, (1875) 316, 318.
—— americanus, 317.
—— amicta, 485.
—— badius, 317, 318.

Merops bicolor, (1875) 317, 318, 409, 410, (1877) 461, 464, 485, 515, 531, 548, 596, (1878) 588, 628, (App.) 655.
—— bullockoides, 209.
—— castaneus, 317.
—— cyanopygius, 317, 318, 319.
—— cyanorrhos, 316.
—— daudini, 145, 316, 317.
—— erythrocephalus, 238.
—— ferrugiceps, 16.
—— javanicus, 316.
—— leschenaulti, 238.
—— minutus, 209.
—— ornatus, 145, 317, 318.
—— philippinus, (1872) 145, 209, (1875) 316, 317, 319, 410, (1877) 460, 461, 462, 464, 515, (1878) 567, 588, 596, 621, (App.) 655.
—— quinticolor, 16, 238, 317.
—— savignii, 316.
—— savignioides, 316.
—— sumatranus, (1875) 317, 318, 319, 409, (1877) 485.
—— typicus, 316.
—— viridis, 16, 145, 318.
Merula calva, 121, 369.
—— philippensis, 366, 367.
merulina (Polyphasia), 156.
merulinus (Cacomantis), (1869) 65, (1872) 156, 157, 158, (1875) 326, 410, (1876) 428, (1877) 516, (1878) 608, 621, 636, 647, (App.) 656.
—— (Cuculus), (1869) 65, (1872) 156, 157, 158, (1875) 326, (1877) 428.
metallica (Calornis), (1872) 179, 180, 181, 205.
—— (Carpophaga), 381.
—— (Lamprotornis), 180.
Metopidius, 132.
Metoponia pusilla, 671.
mexicanus (Cuculus), 62, 64.
—— (Geococcyx), 65.
—— (Phasianus), 65.
meyeni (Zosterops), (1875) 363, 411, (1877) 536, (App.) 658.
meyeri (Trichoglossus), (1871) 113, (1872) 136, 206, (App.) 670.
Micrœca, 133.
Microglossum, 133.
Microhierax erythrogenys, 514, 530, 629.
—— fringillarius, 477.
Micronisus badius, 426.
—— poliopsis, 426.
Micropicus hartlaubi, 481.
Micropternus, 132, 296, 480.
Micropternus badiosus, 480.
—— badius, 480.
—— brachyurus, 480.
micropterus (Cuculus), 213, 240, 428.
—— (Psittacus), 385.
Microscelis, 356.
—— amaurotis, 356.
Microtarsus olivaceus, 492.
miles (Æthopyga), (1866) 19, (1870) 80, 81, 82, (1871) 105, (1872) 231, (1876) 429, 430.
—— (Cinnyris), 19.
—— (Nectarinia), 19.
Milvus, 129, 139.
—— affinis, 139.
—— govinda, 423, 426.
Mimeta, 133, 205.
minahassa (Rallina), 195.
mindanense (Dicæum), (1877) 461, 471, (App.) 658, 665.
mindanensis (Buceros), (1877) 461, 467, 468, 550, (1878) 584, 637, 647, (App.) 656, 664.
—— (Copsychus), (1871) 110, (1872) 119, (1875) 358, 409, 411, (1877) 514, 521, 535, 554, (1878) 591, 598, 640, 649, (App.) 657.
—— (Cuculus), (1869) 58, 60, 63, 64, (1875) 328, (1877) 467.
—— (Eudynamis), (1869) 61, 63, 66, 67, (1875) 328, 411, (1877) 460, 462, 467, 514, 517, 549, (1878) 637, 647, (App.) 656.
—— (Lyncornis), (1878) 627, 635, 656, (App.) 667.
—— (Turdus), 119, 358.
—— (Volvocivora), (1878) 627, 638, 656, (App.) 670.
miniata (Muscicapa), 225.
miniatus (Picus), 103.
minima (Cosmeteira), 92, 665.
—— (Excalfactoria), 187, 387.
—— (Nectarophila), 72, 83, 85.
minimum (Dicæum), 430, 431.
Minla rufigularis, 663.
minor (Buchanga), 577.
—— (Cacatua), 299.
—— (Calornis), 181.
—— (Charadrius), 189, 248, 390.
—— (Coccyzus), 64.
—— (Colymbus), 406.
—— (Cuculus), 64.
—— (Lamprotornis), 181.
—— (Lophochroa), 300.
—— (Numenius), 195.
—— (Picus), 315.

minor (Podiceps), 204, 406.
—— (Psittacus), 303.
minus (Pellorneum), (1877) 504, 505, 506, 511.
—— (Trichostoma), 511.
minuta (Ægialitis), (1872) 188, 189, (1873) 248, 390, (1877) 526.
—— (Ardetta), 402.
—— (Columba), 383, 384.
—— (Fringilla), 372, 593.
—— (Locustella), 262.
—— (Munia), (1875) 371, 372, 412, (App.) 654, 659.
—— (Nectarinia), 85.
—— (Sternula), 215.
—— (Tringa), 196, 249, 397.
minutus (Charadrius), 189.
—— (Melittophagus), 209.
—— (Merops), 209.
—— (Numenius), 195.
—— (Pericrocotus), 225.
—— (Tricholestes), 492.
—— (Trichophorus), 229, 492.
mirabilis (Dicrurus), (1872), 120, (1875) 299, 346, 411, (1877) 530, 533, (1878) 590, 609, (App.) 656, 665.
Mirafra, 132, 296.
Mixornis, (1866) 25, (1872) 132, 227, 228, (1875) 296, (1878) 374.
—— bornensis, 227, 228.
—— capitalis, (1877) 563, (1878) 566, 569, 573, 574, 598, 603, 649, (App.) 657, 667.
—— chloris, 24, 25.
—— gularis, 24, 25, 228.
—— javanica, 228.
—— rubicapilla, 24, 25, 228.
—— ruficeps, 24, 25, 228.
—— similis, 228.
—— sumatrana, 25, 228.
—— woodi, 612, 657.
modesta (Arachnothera), 105.
—— (Ardea), 198.
—— (Geocichla), 105.
—— (Gerygone), 359.
—— (Phœnicornis), 345.
—— (Scops), 253, 256, 670.
modestum (Dicæum), 604, 665.
—— (Myzanthe), 658.
modestus (Brachypus), 492, 671.
—— (Dicrurus), 576, 583.
—— (Pericrocotus), 345.
—— (Picus), 314.
modestus (Prionochilus), 431.
—— (Turdus), 351.
molkenboeri (Centropus), 161, 329.
mollissimus (Turdus), 433.
molucca (Munia), 174, 265.
moluccensis (Alcedo), 148, 252.
—— (Centrococcyx), 159, 161, 162.
—— (Centropus), 159.
—— (Chalcophaps), 385.
—— (Columba), 378, 385.
—— (Palumbus), 246, 378.
—— (Philemon), 205.
—— (Picus), 315, 481.
—— (Tinnunculus), 137.
—— (Yungipicus), 17.
Monacha cæsia, 226.
monacha (Columba), 183.
—— (Dacelo), 146.
Monachalcyon, 130, 146.
—— monachus, 146, 147.
—— princeps, 146.
monachus (Artamus), (1874) 169, 206, 210, (1878) 627.
—— (Monachalcyon), 146, 147.
—— (Parisoma), 36.
—— (Parus), 35, 36.
Monarcha, 128, 133.
Monasa tranquilla, 64.
Monedula philippensis, 345.
moneduloides (Corvus), 175.
—— (Physocorax), 175.
mongola (Ægialitis), 248.
mongolica (Ægialitis), 390, 412, 659.
mongolicus (Eudromias), 600, 623.
mongolus (Charadrius), 390.
moniliger (Batrachostomus), (1877) 434, 439, 440, 441, 443, 454, 455, 458, 459, 506, 507, 508.
Monornis perpulchra, 385.
montana (Fringilla), 370.
montanus (Passer), 654, 658.
—— (Pyrgita), 370, 412.
Monticola, 124, 164, 357.
—— eremita, 357.
—— manillensis, 357.
—— solitarius, (1872) 164, 262, (1875) 357, 411, (1877) 521, (1878) 598, 604, 614, 640, (App.) 657.
monticola (Caprimulgus), 212, 326.
Montifringilla adamsi, 53, 55.
—— hæmatopygia, 55.
montium (Linota), 55.

morio (Edoliosoma), 170.
—— (Juida), 117.
—— (Volvocivora), 170, 206, 639.
Motacilla, 362.
—— alba, 362.
—— aureocapilla, 56, 95.
—— bistrigata, 360, 495.
—— calliope, 358.
—— caprata, 357.
—— citreola, 95.
—— citrinella, 56.
—— flammea, 489.
—— flava, 360.
—— flavescens, 167.
—— fulicata, 357, 358.
—— gularis, 24, 25, 228.
—— luzonensis, 362, 411, 658.
—— melanope, 360, 470, 495, (App.) 658.
—— ocularis, 513, 523, 658.
—— olivacea, 495.
—— philippensis, 367.
—— rubicapilla, 24, 25, 227.
—— singalensis, 21, 93, 490.
—— sylvatica, 357.
—— typhia, 27, 33.
—— variegata, 263.
—— violacea, 367.
—— viridis, 360, 495.
—— xanthochistus, 360.
—— zeylonica, 33, 35.
motacilloides (Pericrocotus), 345.
mouhoti (Buchanga), 95, 664.
muelleri (Eclectus), 135.
—— (Melanopitta), 227, 640.
—— (Pitta), 164, 353.
—— (Tanygnathus), (1872) 115, 135, (1875) 301, (1877) 544, 545.
Muelleripicus, (1871) 103, (1872) 128, 144, (1875) 313.
—— feddeni, 103.
—— fuliginosus, (1877) 543, 548, 562, (App.) 655, 667.
—— fulvus, 144, 314, 562.
—— funebris, (1875) 313, 410, (1877) 548, (App.) 655.
—— gutturalis, 103.
—— pulverulentus, 144.
—— wallacii, 562, 667.
mugimaki (Muscicapa), 116.
multicolor (Querquedula), 404, 413, 660.
—— (Sterna), 404.
Munia, (1869) 53, (1872) 128, 174, (1874) 265, (1875) 371, 372.
—— acuticauda, (1866) 29, (1873) 252, (1874) 265, 266.
—— atricapilla, 371, 372, 659.
—— brunneiceps, (1872) 174, 206, (1875) 371, 667.
—— ferruginea, 500.
—— ferruginosa, 112.
—— formosana, 371.
—— fumigata, (1873) 252, (1874) 265, 266, (App.) 667.
—— jagori, (1872) 122, (1875) 371, 372, 412, (1877) 462, 473, 524, 537, 558, (1878) 593, 599, 623, 642, (App.) 654, 658.
—— kelaarti, 54.
—— leucogastra, 266, 525, 659.
—— leucogastroides, (1868) 54, (1874) 265, 266, (1877) 477, 500.
—— leuconota, 54, 265.
—— majanoides, 500.
—— malacca, 112.
—— maya, 112, 500.
—— melanictera, 266.
—— minuta, (1875) 371, 372, 412, (App.) 654, 659.
—— molucca, 174, 265.
—— nisoria, 174, 372.
—— pallida, 205.
—— pectoralis, 54.
—— punctularia, 53, 174, 372.
—— rubrinigra, (1871) 112, (1872) 174, (1875) 371, 372, (1877) 537.
—— similaris, 53.
—— sinensis, 372.
—— striata, 29, 266.
—— topela, 372.
—— undulata, 29, 53.
munipurensis (Suthora), 290, 670.
murinus (Brachypteryx), 612.
muroensis (Turtur), 383.
Muscicapa, 13, 14.
—— atricapilla, 34, 36.
—— azurea, 347, 499.
—— bambusæ, 347.
—— banyumas, 347, 610.
—— bella, 10.
—— cærulea, (1845) 11, (1872) 120, (1873) 347, (1877) 499.
—— cæruleocephala, 348, 349.
—— cantatrix, 214, 610.
—— cinereo-alba, 242.
—— cyanocephala, 349.
—— elegans, 226, 499.

Muscicapa goiavier, 355, 470.
—— grisola, 242.
—— hæmorrhusa, 34.
—— javanica, 499.
—— latirostris, 242, 590.
—— macrura, 349.
—— malabarica, 497.
—— manillensis, 349.
—— melanictera, (1866) 33, 35, 36, 37.
—— menadensis, 348.
—— miniata, 225.
—— mugimaki, 116.
—— obscura, 496.
—— occipitalis, 120, 348.
—— panayensis, 180, 369, 473.
—— pectoralis, 13, 226, 667.
—— philippinensis, 349.
—— pondiceriana, 242.
—— poonensis, 242.
—— psidii, 355.
—— pyrrhoptera, 498.
—— rufigastra, 214.
—— sibirica, 242.
—— sinensis, 355.
—— tessacourbe, 349.
—— xanthopygia, 14, 667.
Muscicapula sapphira, 432.
—— strophiata, 432.
—— superciliaris, 432.
—— tricolor, 14, 667.
Muscipeta, 11.
—— affinis, 499.
—— atrocaudata, 11.
—— cyaniceps, 347.
—— elegans, 12, 667.
—— princeps, 11, 667.
Muscitrea cyanea, 668.
Musicus, 576.
musicus (Copsychus), 120, 358, 494.
—— (Dicrurus), 346, 577.
—— (Lanius), 120.
muticus (Pavo), 419.
Myiagra azurea, 168.
—— rubeculoides, 168.
—— torquata, 348.
Myialestes, 128, 133, 134, 167, 296.
—— cinereocapilla, 168.
—— helianthea, 167, 206.
Myiophoneus, 132, 296, 419.
Myothera gularis, 25, 228.
Myristicivora, 129, 184, 380.
—— bicolor, (1872) 184, (1875) 380, 412, (1875) 460, 462, 474, (1878) 573, 643, (App.) 659.
—— luctuosa, 184, 381.
—— spilorrhoa, 184.
mysolensis (Calornis), 180.
mystacalis (Æthopyga), 231.
—— (Chloropsis), 106.
—— (Meliphaga), 365.
—— (Nectarinia), 81, 105.
—— (Phyllornis), 107, 491.
—— (Rhabdornis), (1875) 365, 412, (1878) 572, 642, (App.) 658.
mystaceus (Dicrurus), 583.
mystacophanes (Megalæma), 486.
mystacophanus (Bucco), 486.
Myzanthe, 364, 604.
—— ignipectus, 364.
—— modestum, 658.
—— pygmæa, (1875) 364, 411, (1877) 523, (1878) 598, 604, 615.
Myzomela, 92, 133, 214.
—— chloroptera, 125, 214, 668.
Myzornis, 428.

nævia (Aquila), 424.
—— (Gallinula), 392.
nævius (Cuculus), 62, 63, 64.
—— (Diplopterus), 62.
nanus (Bucco), 323.
—— (Picus), 315, 633.
napoleonis (Polyplectrum), 618, 659.
Napothera pileata, 493.
—— umbratilis, 435.
narcissima (Xanthopygia), 657.
narcondami (Buceros), 484.
nasica (Erolla), 224.
—— (Toria), 182.
—— (Treron), (1872) 182, (1877) 502, (1878) 618, (App.) 659.
Nasiterna, 133.
nasutus (Lanius), (1869) 51, (1875) 335, 336, 411, (1877) 518, 532, (1878) 597, 621, 622, 638, (App.) 654, 656.
—— (Todus), 224.
nebulosa (Ardea), 198.
Nectarinia, 77, 92, 173.
—— affinis, 87.
—— amasia, 92.

Nectarinia angladiana, 74.
—— aspasia, 172.
—— australis, 76, 79.
—— calcostetha, 88.
—— chrysogenys, 488.
—— coccineigastra, 20, 87, 88.
—— eximia, 19, 75, 88, 92, 365.
—— flammaxillaris, 19, 20.
—— flavigastra, 488.
—— frenata, 20, 76.
—— frontalis, 79.
—— goalpariensis, 19, 80.
—— hasselti, (1866) 20, (1870) 86, 93, (1877) 489.
—— hodgsoni, 83.
—— hypogrammica, 231.
—— insignis, (1870) 88, 93, (1875) 365, (1877) 489, (1878) 616.
—— javanica, 21, 90, 489.
—— jugularis, (1866) 19, 20 (1870) 75, 77, (1876) 430.
—— kuhli, 83.
—— lathami, 81, 104.
—— lepida, 90.
—— lotenia, 74.
—— mahrattensis, 73.
—— miles, 19.
—— minuta, 85.
—— mystacalis, 81, 105.
—— nipalensis, 82.
—— osea, 80.
—— pectoralis, (1866) 19, 20, (1870) 75, 77, 88, (1877) 488.
—— phayrei, 20, 21, 86.
—— philippensis, 20, 87.
—— phœnicotis, 21, 91, 490.
—— phœnicura, 83.
—— pygmæa, 364.
—— seheriæ, (1866) 19, (1870) 80, (1876) 429, 430.
—— simplex, 488.
—— sperata, 77, 365.
—— zenobia, 20, 78.
—— zeylonica, (1870) 73, 77, 84, 85, (1876) 430.
Nectarophila, (1870) 71, (1872) 128, 172, (1875) 364, (1877) 472.
—— braziliana, 72, 86, 93.
—— currucaria, 92.
—— grayi, 72, 86, 172.
—— hasselti, 430, 489.
—— juliæ, (1877) 460, 461, 471, (1878) 641, (App.) 668.
—— malaccensis, 105.
—— minima, 72, 83, 85.
Nectarophila sperata, (1870) 72, 77, 87, 92, (1875) 364, 411, (1877) 556, (1878) 571, 592, 599, 615.
—— zeylonica, (1870) 72, 73, 83, 85, 86, 91, 92.
neglecta (Calornis), (1872) 179, 180, 181, 211, (1875) 369, (App.) 664.
—— (Carpophaga), 380.
—— (Sitta), 93, 670.
neglectus (Porphyrio), 192.
Nemoricola indica, 263.
Neopus, 128, 138, 296.
—— malayensis, 138.
Neornis, 417.
Nettapus, 404.
—— coromandelianus, 269, 404, 413.
—— pulchellus, 404.
nicobarica (Calœnas), (1872) 186, (1875) 386, 412, (App.) 659.
—— (Columba), 386.
—— (Ianthœnas), 288, 666.
nicobaricus (Palæornis), 31, 236.
nicobariensis (Megapodius), 289.
nidifica (Collocalia), (1872) 149, (1874) 258, 259, 260, (1876) 434.
niger (Bucco), 324.
—— (Buceros), 482.
—— (Cuculus), (1869), 58, 59, 63, 64, 65.
—— (Eudynamis), 63, 66.
nigra (Ardea), 399.
—— (Campephaga), 170.
—— (Cittocincla), 614, 657.
—— (Hydrochelidon), 202.
—— (Polyphasia), 59.
nigrescens (Turnix), (1877) 529, 538, 539, (App.) 659, 670.
nigricapilla (Iora), 34, 36.
nigricapillus (Pycnonotus), 36.
nigriceps (Lanius), (1869) 51, (1875) 335, 336, (1877) 518, 532.
—— (Orthotomus), (1877) 543, 554, (App.) 658, 668.
—— (Otis), 389.
—— (Stachyrhis), 433.
nigricollis (Timelia), 227.
nigrifrons (Centropus), 158, 330.
—— (Zosterops), 173.
nigrigenis (Gecinus), 290.
nigripennis (Caprimulgus), 326.
nigripes (Ardea), (1871) 198, (1874) 268, (1875) 399, (1877) 528.
—— (Herodias), 198.

nigrirostris (Palæornis), 235, 281.
nigritorquis (Leucocerca), (1875) 347, 411, (1877) 519, 533, 552, (1878) 568, 590, 622, 639, 648.
—— (Rhipidura), 122, 347, (App.) 656.
nigroalbus (Cinnyris), 84.
nigrocapitata (Brachypteryx), 493.
nigrocapitatus (Drymocataphus), 493.
nigrogularis (Brachypteryx), 227.
nigrolineata (Zapornia), 194.
nigropileus (Pycnonotus), 26.
nigrorum (Phabotreron), 538, 659.
—— (Zosterops), (1878) 586, 592, 658, (App.) 671.
Niltava, 417, 432.
—— leucoprocta, 668.
—— leucotis, 272.
—— leucura, 509, 668.
—— macgregoriæ, 432.
Ninox, (1872) 142, 144, (1874) 256, (1875) 311.
—— affinis, 144, 255, 256, 257.
—— borneensis, 220, 256, 257.
—— hirsuta, 220, 256, 257.
—— japonica, 144, 631.
—— lugubris, 627, 631, 655.
—— madagascariensis, 144.
—— malaccensis, 256, 257.
—— malayensis, 220.
—— nipalensis, 144.
—— obscura, 256.
—— philippensis, 311, 409, 655.
—— philippinensis, (1872) 142, 144, (1875) 410, (1878) 631.
—— scutellata, 220, 256, 257.
—— scutulata, 478.
—— spilocephala, (1878) 627, 631, 646, (App.) 655, 668.
Niobe ardens, 374.
nipalensis (Æthopyga), 82.
—— (Alcippe), 511, 661.
—— (Cutia), 417.
—— (Graucalus), 244.
—— (Hydrornis), 605.
—— (Limnaetus), 255.
—— (Nectarinia), 82.
—— (Ninox), 144.
—— (Toria), 182, 502.
—— (Treron), 182, 502.
Nisaetus albiniger, 1, 2, 668.
—— cristatellus, 1.
—— fasciatus, 424.
—— malayanus, 2, 668.
nisoria (Munia), 174, 372.
nisosimilis (Falco), 426.
Nisus cruentus, 138.
—— manillensis, 308.
—— trinotatus, 137.
nisus (Accipiter), 426.
nitens (Certhia), 72.
nitida (Calornis), 181.
nivea (Columba), 384.
niveus (Limnaetus), 424.
nivicola (Lerwa), 53.
—— (Syrnium), 426.
nobilis (Ardeomega), 197.
—— (Euplocamus), 232.
Noctua philippensis, 142, 311.
notata (Certhia), 74.
novæ-guineæ (Ceblepyris), 496.
—— (Corvus), 340, 342.
—— (Pitta), 353.
novæ-hollandiæ (Plotus), 205, 408.
—— (Scythrops), 129, 131, 154.
nuchalis (Anthreptes), 79.
—— (Hypogramma), 79.
—— (Pomatorhinus), 563, 669.
nudifrons (Platalea), 403.
Numenius, (1872) 130, 195, (1875) 395, 396.
—— atricapillus, 395.
—— luzoniensis, 395.
—— minor, 195.
—— minutus, 195.
—— phæopus, (1872) 195, (1873) 249, (1875) 395, 412, (1877) 460, 462, 474, 529, (App.) 660.
—— uropygialis, 195, 395.
—— viridis, 200.
Nycticorax, 130, 199, 400.
—— caledonicus, (1872) 199, 214, (1875) 400, (1877) 542.
—— crassirostris, 400, 542.
—— goisagi (401).
—— griseus, (1872) 199, (1875) 400, 413, (1877) 561, (App.) 660.
—— limnophilax, 401, 402.
—— manillensis, (1872) 199, (1875) 400, 413, (1877) 542, (1878) 594, 602, 651, (App.) 660.
nycticorax (Ardea), 400.
Nyctiornis, (1872) 116, 132, 209, (1875) 296.
—— amicta, 485.
—— malaccensis, 486.
nympha (Tanysiptera), 321.

obscura (Calornis), 179, 180.
—— (Lamprotornis), 180.
—— (Muscicapa), 496.
obscuriora (Hypotænidia), 541.
obscurus (Buceros), 330, 483, 484.
—— (Hemipus), 432, 496.
—— (Ninox), 256.
—— (Rhytidoceros), 482.
—— (Turdus), (1875) 351, 411, (1878) 605, (App.) 657.
occipitalis (Alcedo), 31.
—— (Columba), 378.
—— (Coryllis), 303.
—— (Ixus), 355.
—— (Loriculus), (1875) 299, 303, 410, (App.) 653, 654, 655.
—— (Muscicapa), 120, 348.
—— (Ptilopus), 378.
—— (Rhamphiculus), (1875) 378, 412, (1877) 538, 558, (1878) 643, 650, (App.) 659.
—— (Turdus), 355.
ocellata (Ortygis), 388.
—— (Turnix), (1872) 123, (1875) 387, 412, (1877) 513, 526.
ocellatus (Oriolus), 387.
—— (Podargus), 441.
ochracea (Athene), 142.
ochraceiceps (Pomatorhinus), 252, 669.
ochrocephalus (Alcurus), 230, 492.
—— (Trachycomus), 230.
—— (Turdus), 492.
ochromelas (Eurylæmus), 224, 434, 500.
ocularis (Motacilla), 513, 523, 658.
—— (Ortygometra), 393.
Ocypterus leucogaster, 32.
—— leucorhynchus, 421.
—— papuensis, 32.
Ocyris œnops, 265.
Œdicnemus, 191.
—— grallarius, 190.
—— magnirostris, 190, 390.
œnochlamys (Dendrophila), 530, 535, 658.
œnops (Ocyris), 265.
olax (Columba), 376, 503.
—— (Osmotreron), 503.
olivacea (Amaurornis), (1875) 393, 409, 412, (1877) 527, 541, (1878) 601, (App.) 660.
—— (Iole), 493, 613.
—— (Motacilla), 495.
olivaceum (Dicæum), 414, 489, 665.
olivaceus (Arundinax), 242.
—— (Microtarsus), 492.
olivaceus (Pomatorhinus), 563.
—— (Prionochilus), (1877) 564, 566, (1878) 571, (App.) 658, 669.
—— (Psittacus), 301.
Ololygon, 60.
omnicolor (Arachnecthra), 93.
—— (Certhia), 74, 93.
Onocrotalus philippinensis, 407.
Onychoprion, 130, 202, 406.
—— anasthætus, (1872) 203, (1874) 269, (1875) 406, 413.
—— melanauchen, (1866) 32, (1872) 202, (1874) 269, (App.) 660.
orescius (Harpactes), (1866) 16, (1871) 101, (1872) 217, (1875) 419, (1876) 434.
—— (Trogon), 16.
Orgya luctuosa, 358.
orientalis (Acrocephalus), (1872) 165, 166, (1875) 359, 411, (App.) 657.
—— (Calamoherpe), 359.
—— (Cinnyris), 73.
—— (Columba), 384.
—— (Coracias), 319, 464, 531.
—— (Cuculus), (1869) 58, 60, 61, 63, 64, 65, 67, 68, 69.
—— (Eudynamis), (1869) 59, 63, 66, 67, 68, 69.
—— (Eurystomus), (1872) 119, 146, (1873) 238, (1875) 319, 410, (1877) 461, 464, 516, 531, (1878) 567, 588, 596, 603, 608, 646, (App.) 655.
—— (Gallinula), 193.
—— (Glareola), (1872) 121, (1874) 266, (1875) 391, 412, (1877) 504, (App.) 569.
—— (Huhua), 426.
—— (Turdus), 176, 343.
Oriolus, (1872) 162.
—— acrorhynchus, (1875) 350, (1877) 469, 534, (App.) 657.
—— assimilis, (1877) 530, 534, (1878) 648, (App.) 657, 668.
—— castanopterus, 228.
—— ceylonensis, 27, 261.
—— chinensis, 493, 534, 553.
—— cochinsinensis, 534.
—— coronatus, 477, 493.
—— diffusus, 534.
—— flavus, 370.
—— formosus, 351.
—— furcatus, 50, 346, 583.
—— galbula, 162, 210, 351.
—— hippocrepis, 162.
—— horsfieldi, 162.
—— indicus, 162.

Oriolus kundoo, 210.
—— leucogaster, 228.
—— lineatus, 387.
—— melanocephalus, (1866) 27, (1874) 261, 262, (1875) 350, 351.
—— ocellatus, 387.
—— philippensis, (1875) 351, 411, (1878) 654, 657.
—— ruber, 370.
—— sinensis, 179.
—— steerii, 530, 648, 657.
—— xanthonotus, (1872) 228, (1877) 493, 611, (App.) 657.
orissæ (Edolius), 671.
ornatus (Cinnyris), 75.
—— (Merops), 145, 317, 318.
—— (Phœnicophaes), 329.
—— (Platyrhynchus), 224.
—— (Psittacus), 476.
—— (Trichoglossus), 136.
orpheus (Hyloterpe), 344.
orrhophæus (Pyrotrogon), 101.
Orthotomus, 132, 360, 522.
—— borneoënsis, 496.
—— castaneiceps, (1872) 234, (1875) 360, 411, (1877) 460, 470, (1878) 592, (App.) 658, 668.
—— cineraceus, 496.
—— cinereiceps, 554, 641, 658.
—— coronatus, 417.
—— derbianus, (1872) 360, 411, (1877) 513, 522, (App.) 658.
—— edela, 496.
—— frontalis, (1877) 554, (1878) 570, 621, 622, 641, 649, (App.) 658.
—— nigriceps, (1877) 543, 554, (App.) 658, 668.
—— ruficeps, 615, 658.
—— sepium, 496.
—— sutorius, 496.
Ortygis sp.?, 388.
—— ocellata, 388.
Ortygometra, 193, 372.
—— cinerea, (1872) 193, (1875) 392, 412, (1877) 540, (1878) 573, 600, 644, (App.) 659.
—— euryzona, 393.
—— ocularis, 393.
—— quadristrigata, 193.
oryzivora (Loxia), 371, 500.
—— (Padda), (1872) 173, (1875) 371, 412, (1877) 500. (App.) 658.
osea (Cinnyris), 71, 615.
—— (Nectarinia), 80.
Osmotreron, (1872) 128, 182, (1873) 246, (1875) 374, 375.
—— aromatica, 375.
—— axillaris, (1875) 374, 375, 412, (1877) 460, 462, 473, 525, 538, (1878) 558, 572, 593, (App.) 659.
—— batilda, 378.
—— bicincta, 211.
—— chloroptera, 246.
—— fulvicollis, 375.
—— griseicapilla, 182.
—— griseicauda, 182.
—— olax, 503.
—— phayrii, 376.
—— vernans, (1872) 182, 211, (1875) 374, 412, (1877) 503, 537, (1878) 618, 623, 642, 650.
Otis arabs, 389.
—— kori, 388, 389.
—— luconiensis, 389.
—— nigriceps, 389.
—— secretarius, 308.
Otocompsa, 356.
—— jocosa, 241.
—— personata, 491.
Otogyps calvus, 424.
Otomela, 38.
—— arenaria, 46.
—— crassirostris, 44.
—— cristata, 39.
—— lucionensis, 40.
—— phœnicura, 41.
—— schwaneri, 45.
—— superciliosa, 43.
Otothrix, 442.
—— hodgsoni, (1877) 439, 440, 441, 443, 444, 448, 451, 507, 508, 509.
Otus magicus, 142.
—— philippensis, 312.
Oxycerca, 372.
—— everetti, (1877) 510, 513, 524, 530, 537, (1878) 617, (App.) 659, 668.
—— jagori, (1875) 372, 412, (1877) 524, (App.) 659.
—— leucogastra, 510, 617.

Pachycephala, 128, 132, 133.
—— grisola, 264.
pacificus (Cypselus), 434.
—— (Eurystomus), 146.
—— (Lanius), 180.
Padda, 128, 173, 371.

Padda oryzivora, (1872) 173, (1875) 371, 412, (1877) 500, (App.) 658.
pagii (Scissirostrum), 181.
pagodarum (Temenuchus), 53.
Palæornis, (1869) 52, (1872) 132, (1874) 270, 274, 286, (1875) 296.
—— affinis, 218, 236, 285.
—— alexandri, (1874) 235, 236, 274, 281.
—— bengalensis, 278.
—— calthropæ, 280, 281, 305.
—— caniceps, 285.
—— columboides, (1874) 270, 271, 282, 283.
—— cyanocephalus, (1874) 274, 276, 277, (1875) 305.
—— derbyanus, 236.
—— erythrogenys, (1866) 31, (1873) 236, (1874) 284, 285.
—— eupatrius, (1874) 235, 274, 275, 276, (1875) 305.
—— gironieri, 305.
—— hodgsoni, 270.
—— javanicus, 236, 427.
—— lathami, 236, 281.
—— longicaudatus, 218, 274.
—— magnirostris, 235, 275.
—— malaccensis, 218.
—— melanorhynchus, (1874) 235, 274, 281, 283, (1875) 292, (1876) 427.
—— nicobaricus, 31, 236.
—— nigrirostris, 235, 281.
—— peristerodes, 270, 271, 282.
—— pondicerianus, 282.
—— punjabi, 275.
—— purpureus, 278.
—— rosa, 278.
—— sacer, 275.
—— schisticeps, (1874) 270, 274, 279, 280.
—— sivalensis, 275, 276.
—— torquatus, (1874) 274, 276, 277, (1875) 305.
—— vindhiana, 276.
palalaca (Picus), 314.
palawanensis (Broderipus), (1878) 607, 611, (App.) 657, 664.
—— (Criniger), (1878) 607, 613, (App.) 657, 665.
—— (Dicrurus), (1878) 607, 609, 610, (App.) 656, 665.
—— (Phyllornis), 614, 657.
pallens (Turdus), 105, 351.
Pallenura javensis, 360.
pallida (Munia), 205.
pallidipes (Phylloscopus), 511, 662, 666.
pallidus (Cacomantis), 157.
pallidus (Cuculus), 157.
—— (Spilornis), 219, 670.
—— (Turdus), 105.
palmarum (Turdus), 180, 355.
palpebrosa (Zosterops), (1874) 265, (1875) 363, 431, (1877) 490, 536.
palumboides (Carpophaga), 247.
—— (Ianthœnas), 247, 288.
Palumbus amboinensis, 384.
—— moluccensis, 246, 378.
palustris (Megalurus), (1875) 353, 411, (1877) 419, 520, (App.) 657.
Pampusanna criniger, 559.
panaya (Sterna), 203, 406.
panayana (Hirundo), 167, 349.
panayana (Eudynamis), 64.
panayanus (Cuculus), (1869) 61, 64, 66, (1875) 328.
panayensis (Buceros), 332, 334.
—— (Calornis), (1871) 111, (1872) 117, 266, (1875) 369, 412, (1877) 460, 462, 473, 537, 558, (1878) 572, 593, 599, 617, 623, 642, 650, (App.) 658.
—— (Emberiza), 374.
—— (Eumyias), 657.
—— (Lamprotornis), 369.
—— (Lanius), 339.
—— (Loriculus), (1877) 460, 461, 462, (App.) 655, 667.
—— (Muscicapa), 180, 369, 473.
—— (Sterna), 203, 406.
—— (Xantholestes), 657.
panini (Buceros), 332, 334.
—— (Penelopides), (1875) 299, 332, 334, 409, 410, (1877) 514, 518, 550, 551, 552, 562, (1878) 589, 597, (App.) 656.
pannosa (Herodias), 250.
papillosa (Inocotis), 200.
papuensis (Artamus), 32, 169.
—— (Coracias), 146.
—— (Corvus), 341, 342.
—— (Ocypterus), 32.
—— (Pipra), 523, 536, 641.
Paradisea tristis, 367.
paradisea (Sterna), 269.
paradiseus (Cuculus), 23, 64.
—— (Dissemurus), (1866) 23, (1869) 64, (1877) 497, (1878) 575, 581, 582.
paradisi (Tchitrea), 226.
Paradoxornis, 417.
parasiticus (Lestris), 405.
Pardalotus percussus, 489.

parietum (Certhia), 90.
Parisoma, 35.
—— monachus, 36.
Parra cristata, 192.
—— gallinacea, 192.
—— indica, 192.
—— luzoniensis, 395.
—— sinensis, 395.
Parus, (1866) 35, (1872) 132, 133, (1877) 522.
—— amabilis, 658.
—— atriceps, 490.
—— cinereus, 56, 490.
—— commixtus, 419.
—— elegans, (1875) 363, (1877) 513, 522, 530, 535, (1878) 592, (App.) 658.
—— flavocristatus, 29.
—— monachus, 35, 36.
—— peregrinus, 498.
—— quadrivittatus, 363.
—— sultaneus, 28.
parva (Erythrosterna), 233.
parvula (Zosterops), 363.
parvulus (Batrachostomus), (1877) 440, 443, 444, 452, 506.
—— (Podargus), 443, 452, 508.
parvus (Bucco), 323.
Passer, 132.
—— assimilis, 93, 668.
—— cinnamomeus, 93, 668.
—— flaveolus, 370, 668.
—— jugiferus, 370.
—— montanus, 654, 658.
—— rutilans, 668.
passerina (Psittacula), 304.
passerinus (Cacomantis), 59, 156, 157.
—— (Cuculus), 156, 157.
—— (Polyphasia), 428.
—— (Psittacus), 305.
Pastor, 367.
—— cristatellus, 367.
—— dominicanus, 368.
fuscus, 29, 367.
—— griseus, 178, 367.
—— jalla, 501.
—— mahrattensis, 29.
—— malayensis, 368.
—— ruficollis, 178, 367, 368.
—— senex, 50, 179.
—— sturninus, 368.
paulina (Carpophaga), 282, 379.
—— (Columba), 183.
Pavo, 132, 296, 419.
—— muticus, 419.
pectoralis (Arachnecthra), (1870) 75, 76, 78, 79, 92, (1875) 365, (1877) 488.
—— (Carpophaga), 380.
—— (Chalcostetha), 88.
—— (Cinnyris), 615.
—— (Cyrtostomus), 615.
—— (Dicrurus), 171, 577, 610.
—— (Hierococcyx), (1875) 327, 411, (1878) 637, (App.) 656.
—— (Munia), 54.
—— (Muscicapa), 13, 226, 667.
—— (Nectarinia), (1866) 19, 20, (1870) 75, 77, 88, (1877) 488.
—— (Picus), 104.
—— (Rallus), 194.
—— (Thriponax), (1878) 595, 596, 602, 603, (App.) 655, 670.
Pelargopsis, 128, 148, 319.
—— burmannica, 260, 435.
—— fraseri, 484.
—— gigantea, (1874) 253, (1877) 460, 461, 462, 465, 548, (1878) 567, 596, 634, 647, (App.) 655, 668.
—— gouldi, 319, 410, 655.
—— leucocephala, (1872) 222, (1875) 321, (1877) 484, (1878) 647, (App.) 655.
—— melanorhyncha, 148.
pelecanoides (Sterna), 203.
Pelecanopus, 130, 203.
—— cristatus, 203.
—— medius, 203.
Pelecanus, 407.
—— javanicus, 407.
—— manillensis, 407.
—— philippinensis, 407, 413, 660.
—— piscator, 408.
—— roseus, 407, 413, 660.
—— rufescens, 407.
—— sinensis, 408.
—— sula, 407.
pelewensis (Artamus), 627.
Pellorneum, 505, 510.
—— minus, (1877) 504, 505, 506, 511.
—— subochraceum, (1877) 504, 505, 506, 510, 511.
—— tickelli, (1871) 504, 505, 510, (App.) 665.
Peloperdix, 132, 296.
Peltops, 133.
pelvica (Tenthaca), 109.

Penelopides, 298, 332.
—— affinis, (1877) 543, 550, 551, 552, 562, (1878) 567, 597, 637, 647, (App.) 656, 668.
—— manillæ, (1875) 299, 334, 411, (1877) 514, 517, 551, (1878) 597, (App.) 656.
—— panini, (1875) 299, 332, 334, 409, 410, (1877) 514, 518, 550, 551, 552, 562, (1878) 589, 597, (App.) 656.
pennatus (Scops), 426.
Penthera rubritorques, 374.
Penthoceryx, 157.
—— pravatus, 222.
—— sonnerati, 222.
percussus (Pardalotus), 489.
—— (Prionochilus), 230, 489.
Perdicula, 132, 296.
Perdix coronata, 232.
—— gingica, 386.
peregrinator (Falco), 424, 426.
peregrinus (Falcinellus), 200.
—— (Falco), 306.
—— (Parus), 498.
—— (Pericrocotus), (1872) 225, 226, (1873) 244, (1877) 498.
—— (Phœnicornis), 11.
Pericrocotus, 132, 345.
—— andamanensis, 243, 244.
—— ardens, 225, 226, 243, 498.
—— brevirostris, 110, 432, 498.
—— cinereus, (1875) 299, 345, 411, (App.) 656.
—— elegans, 110, 432.
—— flammeus, 110, 498.
—— flammifer, 498.
—— igneus, 225, 226, 656.
—— minutus, 225.
—— modestus, 345.
—— motacilloides, 345.
—— peregrinus, (1872) 225, 226, (1873) 244, (1877) 498.
—— roseus, 432.
—— solaris, 432.
—— speciosus, (1871) 110, (1872) 225, (1873) 243, (1876) 432.
—— xanthogaster, 110, 477, 498.
peristerodes (Palæornis), 270, 271, 282.
perlatus (Tetrao), 186.
Pernis, 129, 140.
—— celebensis, 140, 208, 478.
—— crassirostris, 140, 310.
—— cristata, 140.
—— ptilorhyncha, (1872) 140, 208, (1877) 477, 547, 548, (App.) 655.
peroni (Ægialitis), (1872) 190, 206, (1877) 527, (1878) 600, 624, (App.) 659.
—— (Charadrius), 600, 624.
perpulchra (Monornis), 385.
persa (Cuculus), 58, 59, 63.
—— (Turacus), 63.
personata (Otocompsa), 491.
personatus (Graucalus), 170.
perspicillata (Carpophaga), 379, 380.
Petrocincla castaneicollis, 55.
—— saxatilis, 55.
Petrocossyphus cyaneus, 262.
—— solitarius, 119.
Petroica, 133.
petronella (Xanthodina), 671.
Phabotreron, 298, 378.
—— amethystina, (1875) 378, 409, (1877) 558, (1878) 572, 604, (App.) 659.
—— brevirostris, (1877) 461, 472, 558, (1878) 572, 599, 643, 650, (App.) 659, 669.
—— leucotis, (1875) 378, (1877) 525, 538, 559, (1878) 643, (App.) 659.
—— nigrorum, 538, 659.
phæocephalus (Criniger), 107, 491.
—— (Ixus), 107, 491.
phæopus (Numenius), (1872) 195, (1873) 249, (1875) 395, 412, (1877) 460, 462, 474, 529, (App.) 660.
—— (Scolopax), 395, 474.
phæostriatus (Bucco), 18.
Phalacrocorax, 130, 204, 408.
—— sp. ?, 408, 413, 660.
—— lucidus, 408.
—— melanoleucus, 204.
Phalaropus australis, 196.
Phapitreron amethystina, 378, 412.
—— leucotis, 378, 412.
phasianella (Columba), 382.
—— (Macropygia), 247, 382.
Phasianus argus, 503.
—— cristatus, 232.
—— mexicanus, 65.
—— rouloul, 503.
phasianus (Centropus), 159.
phayrii (Alcippe), 511, 661, 663.
—— (Nectarinia), 20, 21, 86.
—— (Osmotreron), 376.
—— (Pomatorhinus), 415.
Philedon gularis, 356.

Philemon, 133, 205.
—— collaris, 205.
—— inornatus, 205.
—— moluccensis, 205.
Philentoma, 132, 226, 347.
—— albiventris, 590, 656.
—— cyaniceps, 347, 498, 656.
—— pyrrhopterum, 347, 498.
—— unicolor, 226.
—— velatum, 13, 226, 667.
philippense (Syrnium), 312.
philippensis (Acridotheres), 367.
—— (Ægialitis), 527.
—— (Ardea), 401, 402.
—— (Athene), 311.
—— (Balicassius), 24, 345.
—— (Bubo), 311.
—— (Centropus), 160.
—— (Certhia), 73, 77, 365.
—— (Colymbus), 406.
—— (Corvus), 352.
—— (Cuculus), 65, 329.
—— (Galgulus), 356.
—— (Gypogeranus), 308.
—— (Hypotænidia), (1872) 194, (1875) 394, 412, (1877) 513, 527, (App.) 660.
—— (Hypsipetes), 356.
—— (Limnaetus), (1875) 308, 408, 410, (1878) 587, (App.) 655.
—— (Loriculus), (1875) 299, 303, 304, 410, (1877) 547, (App.) 655.
—— (Lorius), 306.
—— (Megalæma), 323, 427.
—— (Merula), 366, 367.
—— (Monedula), 345.
—— (Motacilla), 367.
—— (Nectarinia), 20, 87.
—— (Ninox), 311, 409, 655.
—— (Noctua), 142, 311.
—— (Oriolus), (1875) 351, 411, (1878) 654, 657.
—— (Otus), 312.
—— (Pitta), 352.
—— (Podiceps), 406, 413, 660.
—— (Psittacula), 302.
—— (Psittacus), 302.
—— (Rallus), 394.
—— (Spizaetus), 308.
—— (Turdus), 165, 356.
—— (Xantholæma), 323.
philippinarum (Cacatua), 116.
—— (Picus), 314, 315.
—— (Psittacus), 116, 300.
philippina (Arachnecthra), 92.
—— (Certhia), 73, 77.
—— (Loxia), 373, 500.
—— (Sterna), 406.
philippinensis (Centrococcyx), 221.
—— (Ceyx), (1875) 320, 322, 410, (App.) 654, 655.
—— (Coccothraustes), 373.
—— (Cyornis), (1875) 347, 411, (1877) 513, 519, 533, 552, (1878) 568, 590, 597, 639, (App.) 656.
—— (Hydrocorax), 330.
—— (Hyloterpe), (1872) 234, (1875) 344, 409, 411, (1878) 568, (App.) 656, 666.
—— (Hypsipetes), (1875) 356, 411, (1877) 460, 470, 521, 534, 553, (1878) 579, 591, 598, 603, (App.) 657.
—— (Muscicapa), 349.
—— (Ninox), (1872) 142, 144, (1875) 410, (1878) 631.
—— (Onocrotalus), 407.
—— (Pelecanus), 407, 413, 660.
—— (Pseudoptynx), (1875) 311, 409, 410, (1878) 632, (App.) 655.
—— (Rubetra), 357.
—— (Turdus), 470.
philippinus (Artamus), 625.
—— (Charadrius), 188, 390.
—— (Corvus), (1875) 365, 366, 412, (1877) 460, 462, 472, 473, 524, 537, 557, (1878) 572, 593, 599, 604, 623, 642, 650, (App.) 658.
—— (Lanius), 339, 421.
—— (Merops), (1872) 145, 209, (1875) 316, 317, 319, 410, (1877) 460, 461, 462, 464, 515, (1878) 567, 588, 596, 621 (App.) 655.
—— (Ploceus), 373.
philomela (Hylocharis), 264, 344.
—— (Hyloterpe), 264.
Phlegœnas, (1872) 129, 132, 133, 185, (1875) 384.
—— bartletti, 559.
—— crinigera, 544, 559, 643.
—— cruenta, 133, 559.
—— luzonica, (1872) 133, (1875) 384, 412, (1877) 525, (App.) 659.
—— tristigmata, 185.
Phodilus, 132, 296.
—— badius, 220.
phœnicea (Ampelis), 358.
Phœnicophaes, (1872) 128, 154, 155, 156.
—— æneicaudus, 102, 154.

Phœnicophaes barotti, 329.
—— calorhynchus, 154, 155, 156.
—— caniceps, 478.
—— cumingi, 329.
—— curvirostris, (1871) 102, (1872) 154, 155, 156, (1876) 428, (1878) 609.
—— erythrognathus, (1872) 102, 154, 155, 156, (1877) 428, 478, (1878) 609.
—— harringtoni, 608, 656.
—— javanicus, 478.
—— ornatus, 329.
—— pyrrhocephalus, 64, 155.
—— superciliosus, 329.
phœnicopterus (Turdus), 358.
phœnicorhyncha (Columba), 383.
Phœnicornis, 11.
—— ardens, 498.
—— aureopygia, 11, 669.
—— modesta, 345.
—— peregrinus, 11.
phœnicotis (Anthreptes), 21, 91.
—— (Chalcoparia), 430, 490.
—— (Nectarinia), 21, 91, 490.
Phœnicura, 141.
—— rubeculoides, 226.
—— superciliaris, 90.
phœnicura (Erythra), (1872) 193, (1874) 267, (1875) 392, 412, (1877) 504, 560, (1878) 644, (App.) 659.
—— (Nectarinia), 83.
—— (Otomela), 41.
—— (Ruticilla), 47.
phœnicurus (Enneoctonus), 41.
—— (Lanius), (1867) 38, 39, 40, 41, 42, 43, 48, (1869) 56, (1871) 109, (1875) 336, 337.
—— (Rallus), 392, 504.
phrygius (Psittacus), 301.
Phylidonyris, 92.
Phyllopneuste borealis, (1874) 262, (1875) 359, 411, (1877) 522, 535, (1878) 598, 640, (App.) 657.
—— magnirostris, 359, 411.
—— lugubris, 657.
Phyllornis, (1872) 106, 132, (1875) 296, (1877) 428, 431, 491, 529.
—— chlorocephalus, 98, 431, 669.
—— cochinsinensis, 106, 107.
—— cyanopogon, 106, 107, 491.
—— flavipennis, (1877) 529, 535, (1878) 657, (App.) 669.
—— icterocephalus, 98, 106, 491.
—— javensis, 106, 431, 491.
Phyllornis jerdoni, 431.
—— malabaricus, 106, 491.
—— mystacalis, 107, 491.
—— palawanensis, 614, 657.
—— sonnerati, 491.
—— viridinucha, 491.
—— viridis, 491.
Phylloscopus, 54, 522.
—— borealis, (1877) 513, 522, 535, (1878) 598, 640.
—— lugubris, 657.
—— magnirostris, (1875) 359, (1877) 513, 522, 535.
—— pallidipes, 511, 662, 666.
—— rama, 54.
Physocorax moneduloides, 175.
Piaya brachyptera, 62.
—— melanogaster, 64.
—— ridibundus, 64.
Pica, 176.
—— albicollis, 176.
—— senegalensis, 346.
pica (Buceros), 7.
—— (Coccystes), 62.
picaoides (Sibia), 417, 433.
picata (Sibia), 434.
picatus (Hemipus), 432.
—— (Eudynamis), 68.
picina (Chætura), (1878) 627, 635, 656, (App.) 664.
picinus (Edolius), 498.
pickeringi (Carpophaga), 379, 659.
picta (Ardea), 399.
picturata (Columba), 383.
Picumnus abnormis, 481.
Picus, 52.
—— analis, 315, 480.
—— andamanensis, 238.
—— atratus, 427.
—— aurantius, 214.
—— auricristatus, 427.
—— badius, 480.
—— bengalensis, 314.
—— brunneus, 104.
—— canicapillus, 17.
—— cardinalis, 315.
—— crawfurdi, 103.
—— flavinotus, 315.
—— fulvigaster, 145.
—— funebris, 313.
—— funereus, 314.
—— guineensis, 315.

Picus grammithorax, 221.
—— hæmatribon, 314.
—— horsfieldi, 145, 313.
—— javanensis, 103.
—— javensis, (1871) 103, (1872) 144, (1875) 313, (1877) 479.
—— leucogaster, 145, 313.
—— lichtensteini, 314.
—— lucidus, 314, 463.
—— luridus, 104.
—— macei, 427.
—— maculatus, 315, 633, 634.
—— mahrattensis, 427.
—— majoroides, 427.
—— malaccensis, 103, 479.
—— manillensis, 315.
—— melanogaster, 7, 669.
—— menstruus, 314, 315.
—— mentalis, 479.
—— miniatus, 103.
—— minor, 315.
—— modestus, 314.
—— moluccensis, 315, 481.
—— nanus, 315, 633.
—— palalaca, 314.
—— pectoralis, 104.
—— philippinarum, 314, 315.
—— pœcilolophus, 321.
—— porphyromelas, 669.
—— pulverulentus, 103.
—— punctatus, 314.
—— puniceus, 479.
—— rafflesi, 479.
—— sanguineus, 145.
—— sondaicus, 481.
—— spilolophus, 314.
—— squamosus, 314.
—— tiga, 479.
—— tristis, 480.
—— tukki, 104, 480.
—— validirostris, 315, 633, 634.
—— variegatus, 315, 481.
—— viridanus, 17.
Piezorhynchus, 133.
pileata (Alcedo), 321, 484.
—— (Columba), 385.
—— (Entomobia), (1875) 321, 322, 410, (App.) 654, 655.
—— (Napothera), 493.
—— (Prinia), 25, 228.
—— (Sterna), 406.
pileata (Timelia), 216, 217, 670.
pileatus (Halcyon), 104, 484.
—— (Psittacus), 301.
Pionias discurus, 300.
Pipastes agilis, 522.
—— batchianensis, 214, 237.
—— maculatus, 522.
Pipra papuensis, 523, 536, 641.
Piprisoma agile, 430, 431.
piririgua (Guira), 64.
pisanus (Coccystes), 64.
—— (Cuculus), 64.
piscator (Dysporus), 408, 413, 660.
—— (Pelecanus), 408.
pispoletta (Alauda), 55.
—— (Alaudula), 55.
pithecops (Strix), 312.
Pitta, (1872) 129, 164, (1875) 353, (1878) 605.
—— atricapilla, 227, 352.
—— boschii, 494.
—— cyanoptera, 16, 22.
—— erythrogastra, 352, 470.
—— forsteni, 353.
—— granatina, 105.
—— irena, 353.
—— kochi, 605.
—— leucoptera, 352.
—— macrorhyncha, 352.
—— malaccensis, 22.
—— melanocephala, 164.
—— muelleri, 164, 353.
—— novæ-guineæ, 353.
—— philippensis, 352.
—— rosenbergi, 353.
—— sanghirana, 353.
—— sordida, 353.
—— venusta, 105.
Pityriasis gymnocephalus, 218, 224.
planicornis (Buceros), 330.
Platalea alba, 402, 403.
—— chlororhyncha, 403.
—— cristata, 403.
—— leucorodia, 402, 403.
—— luzonensis, 403.
—— nudifrons, 403.
—— telfairi, 403.
—— tenuirostris, 403.
platurus (Dicrurus), 497.
—— (Dissemurus), (1877) 497, (1878) 575, 580, 581.

platurus (Prioniturus), 135.
Platycercus, 128, 132, 133.
Platylophus, 111, 132, 296.
—— galericulatus, 111.
platyrhyncha (Limicola), 621, 624, 660.
—— (Tringa), 624.
Platyrhynchus ornatus, 224.
platyrhynchus (Buceros), 330.
Platysmurus leucopterus, 500.
plicatus (Aceros), 435.
—— (Buceros), 482, 483, 484.
—— (Calao), 482.
—— (Rhytidoceros), 482.
Ploceus, 132, 296, 373.
—— baya, 373, 500.
—— bengalensis, 373.
—— fringilloides, 54.
—— hypoxanthus, 373.
—— javanensis, 373.
—— maculatus, 500.
—— manyar, 373.
—— philippinus, 373.
Plotus, 130, 205, 408.
—— melanogaster, (1872) 116, 205, (1876) 408, 413, (App.) 660.
—— novæ-hollandiæ, 205, 408.
plumbea (Ceblepyris), 340.
—— (Gallinula), 392.
plumosus (Brachypus), 492, 613.
—— (Pycnonotus), 492.
pluto (Copsychus), 110, 119.
pluvialis (Charadrius), 389, 503.
—— (Cuculus), 64.
—— (Hyctornis), 64.
Pnoepyga, 292.
—— caudata, 292, 432.
—— chocolatina, 292, 669.
—— longicaudata, 292.
—— roberti, 291, 669.
—— squamata, 432.
Podargus, (1872) 132, 133, (1877) 440, 441, 442, 454.
—— affinis, 443.
—— auritus, 442, 454.
—— cornutus, (1877) 448, 449, 450, 486, 508.
—— fullertoni, 454.
—— javanensis, (1877) 443, 450, 452, 454.
—— javensis, 449, 450, 507.
—— ocellatus, 441.
—— parvulus, 443, 452, 508.
Podargus stellatus, 443, 452.
Podiceps, 130, 204, 406.
—— gularis, 204.
—— minor, 204, 406.
—— philippensis, 406, 413, 660.
podobe (Turdus), 358.
pœcilolophus (Picus), 221.
Pogonorhynchus leucomelas, 324.
Polioaetus, 128, 139, 296.
—— humilis, 139.
—— icthyaetus, 226.
poliocephala (Carpophaga), 381.
—— (Hemiphaga), (1875) 381, 412, (1878) 573, 643, (App.) 659.
poliocephalus (Porphyrio), 192, 391.
poliocercus (Thalasseus), 204.
poliogenys (Buteo), 141.
—— (Falco), 140, 141.
Poliohierax, 113, 233.
—— fieldeni, 620.
—— insignis, (1871) 113, (1872) 233, (1878) 620, (App.) 669.
—— semitorquatus, 620.
Poliolophus urostictus, (1877) 553, (1878) 570, 603, 640.
poliopsis (Accipiter), 426.
—— (Astur), 426.
—— (Micronisus), 426.
Poliornis, (1845) 2, (1872) 128, 140, 141.
—— indicus, 2, 140, 309.
—— liventer, 140.
polita (Certhia), 74.
Polophilus lathami, 161.
—— rufus, 161.
Polyphasia, 60.
—— merulina, 156.
—— nigra, 59.
—— passerinus, 428.
—— rufiventris, 428.
—— tenuirostris, 18.
Polyplectrum, 132, 296, 618.
—— emphanum, 618.
—— napoleonis, 618, 659.
Polytmus amboinensis, 91.
—— indicus, 91.
Pomatorhinus, 132, 296.
—— albigularis, 415.
—— leucogaster, 563.
—— mariæ, 415, 669.
—— nuchalis, 563, 669.

Pomatorhinus ochraceiceps, 252, 669.
—— olivaceus, 563.
—— phayrii, 415.
—— schisticeps, 563.
pompadora (Columba), 376.
pondiceriana (Muscicapa), 242.
—— (Tephrodornis), 109.
pondicerianus (Falco), 477.
—— (Haliaetus), 309.
—— (Palæornis), 282.
poonensis (Muscicapa), 242.
Porphyrio, (1872) 130, 191, 192, (1875) 391.
—— indicus, 191.
—— melanopterus, 191.
—— neglectus, 192.
—— poliocephalus, 192, 391.
—— pulverulentus, (1872) 192, (1875) 391, 412, (App.) 659.
—— samoensis, 191.
—— smaragdinus, 191.
porphyrio (Tetrao), 232.
porphyrioides (Gallinula), 392.
porphyrolæma (Chalcostetha), 89, 172.
porphyromelas (Lepocestes), 7.
—— (Picus), 669.
Porzana, 114, 392.
—— bailloni, (1875) 392, 412, (App.) 654, 659.
—— bicolor, 114, 669.
—— erythrothorax, 600.
—— fusca, (1875) 393, 412, (1878) 600, 644, (App.) 659.
—— rubiginosa, 393.
—— pygmæa, 392, 412.
prascinoscelis (Ardeola), 198.
pratensis (Alauda), 495.
Pratincola, (1872) 129, 130, 165, (1875) 357.
—— atrata, 165.
—— caprata, (1872) 165, (1875) 357, 411, (1877) 521, 535, (1878) 622, (App.) 657.
pravatus (Cacomantis), 157.
—— (Cuculus), 157.
—— (Penthoceryx), 222.
presagus (Cuculus), 154.
princeps (Monachalcyon), 146.
—— (Muscipeta), 11, 667.
Prinia, 90, 132, 495.
—— albigularis, 94, 97, 669.
—— beavani, 28.
—— cinereocapilla, 28.
—— cursitans, 622.
Prinia familiaris, 477, 495, 496.
—— flaviventris, 496.
—— hodgsoni, 94, 97, 669.
—— pileata, 25, 228.
—— rafflesi, 495, 511, 669.
—— sonitans, 90.
Prioniturus, (1872) 130, 133, 135, (1875) 296, 300.
—— discurus, (1875) 300, 410, (1877) 461, 462, 514, 530, 544, (1878) 602, 628, 646, (App.) 655.
—— flavicans, 136.
—— platurus, 135.
—— spatuliger, 300.
—— wallacii, 135.
Prionochilus, (1872) 128, 173, (1875) 296, (1876) 431, (1877) 529, 536.
—— aureolimbatus, 173.
—— gordoni, 431.
—— maculatus, 230.
—— modestus, 431.
—— olivaceus, (1877), 564, 566, (1878), 571, (App.) 658, 669.
—— percussus, 280, 489.
—— quadricolor, (1877) 529, 536, (App.) 658, 669.
—— xanthopygius, 230, 658.
problematicus (Copsychus), 494.
Propasser, 52.
propinqua (Melanopitta), 657.
propinquus (Brachyurus), 513, 639.
proserpina (Chalcostetha), 88, 89.
—— (Cinnyris), 88.
Psarisomus, 132, 296.
—— assimilis, 418.
—— dalhousiæ, 418, 434.
—— psittacinus, 434.
Psarolophus ardens, 431.
—— trailli, 431.
Pseudolalage, 298, 343.
—— melanictera, 344.
—— melanoleuca, (1875) 343, 409, 411, (App.) 656.
Pseudoptynx, 289, 311, 632.
—— gurneyi, (1878) 627, 632, 655, (App.) 669.
—— philippinensis, (1875) 311, 409, 410, (1878) 632, (App.) 655.
Pseudornis dicruroides, 222.
psidii (Muscicapa), 355.
psilopterus (Batrachostomus), 441.
psittacea (Columba), 182.
psittacinus (Psarisomus), 434.
Psittacula, 133.

Psittacula cingulata, 305.
—— culacissi, 303.
—— indica, 49.
—— passerina, 304.
—— philippensis, 302.
—— rubrifrons, 303.
—— squamotorquata, 301.
Psittacus asiaticus, 49.
—— buffoni, 134.
—— capensis, 305.
—— cingulatus, 304.
—— cyanicollis, 205.
—— discurus, 300, 462.
—— gala, 301.
—— galgulus, 302, 482.
—— ginginianus, 235.
—— guianensis, 305.
—— hæmaturopygius, 299.
—— incertus, 482.
—— indicus, 49.
—— leucophthalmus, 304, 305.
—— lory, 305.
—— loxia, 301, 302, 514.
—— loxias, 301, 302.
—— lucionensis, 301, 462.
—— lunulatus, 301, 302.
—— malaccensis, 484.
—— manillensis, 305.
—— marginatus, 301.
—— melanopterus, 303, 304, 305.
—— micropterus, 305.
—— minor, 303.
—— olivaceus, 301.
—— ornatus, 476.
—— passerinus, 305.
—— philippensis, 302.
—— philippinarum, 116, 300.
—— phrygius, 301.
—— pileatus, 301.
—— pumilus, 304.
—— setarius, 135.
—— signatus, 305.
—— simplex, 304.
—— sonnerati, 305.
—— spatuliger, 300.
—— sumatranus, 135, 476.
—— torquatus, 301, 302.
—— vernalis, 17.
Psittinus incertus, 482.
Pterythrius, 132, 296, 419.
—— melanotis, 54.
—— xanthochlorus, 54.
Ptilocichla falcata, 657.
Ptilocolpa, 296, 380.
—— carola, 380.
—— griseipectus, (1875) 380, 412, (1878) 628, 643, (App.) 659.
Ptilopus, 4.
—— flavicollis, 205.
—— geversi, 377.
—— hugonianus, 377.
—— hyogaster, 205.
—— incognitus, (1877) 558, 565, (App.) 654, 659, 669.
—— jambu, 378.
—— leclancheri, 654, 659.
—— melanocephalus, (1872) 183, (1878) 627, 642, 650, (App.) 659.
—— occipitalis, 378.
—— superbus, 183.
—— xanthogaster, 205.
—— xanthorrhous, 642.
ptilorhyncha (Pernis), (1872) 140, 208, (1877) 477, 547, 548, (App.) 655.
Ptilorhynchus, 133.
ptilorhynchus (Falco), 477, 547.
Ptiloscelus, 426.
—— amhersti, 426.
ptilosus (Macronus), 227, 493.
Ptionoprogne, 434.
pucoran (Buceros), 482.
puella (Coracias), 108.
—— (Hypothymis), 168, 206.
—— (Irena), (1870) 96, 97, 107, (1871) 108, (1873) 241.
Puffinus, 405.
—— leucomelas, (1875) 405, 413, (1877) 514, (App.) 660.
pugnax (Hemipodius), 388.
—— (Tringa), 396.
—— (Turnix), 526, 538, 539.
pulchella (Actenoides), 322.
—— (Carpophaga), 288, 664.
—— (Certhia), 77.
—— (Dacelo), 104, 484.
pulchellus (Carcineutes), 104, 484.
—— (Nettapus), 404.
pulcher (Caprimulgus), 12, 223, 664.
pulcherrima (Columba), 385.
—— (Eudrepanis), 658.
pulverulenta (Treron), 182, 376.

pulverulentus (Muelleripicus), 144.
—— (Porphyrio), (1872) 192, (1875) 391, 412, (App.) 659.
—— (Picus), 103.
pumilus (Centropus), 160, 162.
—— (Psittacus), 304.
—— (Zebrilus), 402.
punctata (Eudynamis), 63, 68.
—— (Mareca), 201, 251.
punctatus (Batrachostomus), 455, 506, 508.
—— (Cuculus), (1869) 58, 60, 63, 67, 68, 69.
—— (Picus), 314.
—— (Troglodytes), 253.
punctularia (Loxia), 29.
—— (Munia), 53, 174, 372.
punctulata (Athene), 142.
punctulatus (Cuculus), 62, 64.
—— (Diplopterus), 64.
puniceus (Callolophus), 479.
—— (Picus), 479.
punjabi (Palæornis), 275.
purpurascens (Calornis), 180, 181.
purpurata (Certhia), 74.
purpuratus (Cinnyris), 74.
purpurea (Alcedo), 320.
—— (Ardea), (1874) 268, (1875) 398, 413, (1877) 504, (App.) 660.
—— (Columba), 374.
purpureus (Palæornis), 278.
pusarau (Aceros), 435.
—— (Buceros), 482.
pusilla (Arachnecthra), 92.
—— (Arachnothera), 487, 488.
—— (Carpophaga), 378.
—— (Certhia), 91, 92.
—— (Emberiza), 265.
—— (Metoponia), 671.
pusillus (Charadrius), 189.
—— (Cinnyris), 84.
—— (Corvus), (1878) 607, 617, 658, (App.) 664.
—— (Loriculus), 131.
—— (Megapodius), (1877) 529, 539, (1878) 659, (App.) 667.
—— (Pycnonotus), 492.
Pycnonotus, 34, 132, 230.
—— analis, 355.
—— albicapillus, 35, 36, 419.
—— brunneus, 492.
—— finlaysoni, 26.
Pycnonotus gourdini, 355.
—— hæmorrhous, 26.
—— nigricapillus, 36.
—— nigropileus, 26.
—— plumosus, 492.
—— pusillus, 492.
—— pygæus, 26.
—— ruficaudatus, 107.
—— urostictus, 409.
Pyctorhis, 52.
pygæus (Pycnonotus), 26.
pygmæa (Crex), 392.
—— (Linota), 53.
—— (Nectarinia), 364.
—— (Porzana), 392, 412.
pygmæum (Dicæum), 414.
—— (Myzanthe), (1875) 364, 411, (1877) 523, (1878) 598, 604, 615.
pygmæus (Buteo), 141.
—— (Centropus), 161.
Pyrgita, 370.
—— montanus, 370, 412.
pyrogaster (Cacomantis), 157.
Pyrotrogon ardens, 316.
—— orrhophæus, 101.
Pyrrhocentor, 133, 158, 330.
—— celebensis, 158.
—— melanops, (1875) 330, 411, (1877) 550, (1878) 637, 647, (App.) 656.
—— unirufus, 158, 330.
pyrrhocephalus (Alectorops), 155.
—— (Cuculus), 64, 155.
—— (Phœnicophaes), 64, 155.
pyrrhogaster (Cuculus), 157.
pyrrhogenys (Buteo), 140.
—— (Lamprotornis), 367.
—— (Sturnia), (1872) 178, 179, (1875) 368, 369.
pyrrhonotus (Lanius), 336.
pyrrhophæa (Timelia), 493.
pyrrhopogon (Lamprotornis), 178, 368.
pyrrhops (Buchanga), 24, 95.
pyrrhoptera (Muscicapa), 498.
pyrrhopterum (Philentoma), 347, 498.
pyrrhopterus (Corydonix), 161, 329.
pyrrhopygus (Trichixus), 14, 670.
Pyrrhula, 53.

quadricolor (Ægithina), 33.
—— (Certhia), 76.

quadricolor (Prionochilus), (1877) 529, 536, (App.) 658, 659.
—— (Loriculus), 125, 207, (App.) 667.
quadristrigata (Ortygometra), 193.
quadristrigatus (Rallus), 194.
quadrivittatus (Parus), 363.
Querquedula, 130, 200, 404.
—— andamanensis, 251.
—— circia, 200.
—— formosa, 404.
—— humeralis, 200.
—— multicolor, 404, 413, 660.
querquedula (Anas), 200.
quinticolor (Merops), 16, 238, 317.

radiata (Athene), 426.
—— (Zonœnas), 184.
radiatus (Cuculus), 61, 65, 328.
rafflesi (Eurylæmus), 224.
—— (Picus), 479.
—— (Prinia), 495, 511, 669.
—— (Tiga), 479.
rafflesia (Calyptomena), 223.
rafflesius (Bucco), 323.
raii (Locustella), 262.
Rallina, (1872) 128, 130, 195, (1875) 393.
—— euryzonoides, (1877) 529, 540, (1878) 594, 601, (App.) 654, 659.
—— fasciata, (1875) 393, 412, (1878) 594, (App.) 654, 659.
—— isabellina, 195.
—— minahassa, 195.
—— rosenbergi, 195.
Rallus capensis, 541.
—— caudatus, 394.
—— ecaudatus, 394.
—— fasciatus, 393.
—— fuscus, 393.
—— gularis, 194.
—— lewini, 194.
—— lineatus, 394.
—— pectoralis, 194.
—— philippensis, 394.
—— phœnicurus, 392, 504.
—— quadristrigatus, 194.
—— rufescens, 392.
—— ruficeps, 393.
—— striatus, 267, 394.
—— sumatranus, 504.
—— superciliaris, 194.
Rallus torquatus, 194, 394.
—— zeylanicus, 540, 541.
rama (Phylloscopus), 54.
Ramphiculus, 378.
—— occipitalis, (1875) 378, 412, (1877) 538, 558, (1878) 643, 650, (App.) 659.
ramsayi (Actinura), 415, 663.
—— (Megalæma), 413, 667.
rangoonensis (Dissemurus), 110.
—— (Edolius), 346, 497.
ransomi (Eudynamis), (1869) 60, 65, 66, 68, 69, 70, (1875) 328.
raytal (Alaudula), 55.
Rectes, 133.
rectirostris (Anthreptes), 91.
—— (Ardea), 197.
—— (Certhia), 490.
rectunguis (Centrococcyx), (1872) 158, 159, 160, 162.
—— (Centropus), (1869) 61, (1872) 158, 159, 160.
recurvirostris (Esacus), 191.
Reguloides fulviventer, 661, 663.
Regulus cristatus, 55.
—— himalayensis, 55.
regulus (Coryllis), 303.
—— (Loriculus), (1875) 299, 303, 304, 410, (1877) 462, 463, (1878) 587, (App.) 654, 655, 667.
reinwardti (Baza), 140.
—— (Lophotes), 140.
—— (Reinwardtœna), 185, 205.
Reinwardtœna, 205.
—— reinwardti, 185, 205.
religiosa (Eulabes), 111.
—— (Gracula), (1845) 8, 9, 10, (1877) 501.
remifer (Bhringa), 217, 419, 581.
—— (Edolius), 497, 582.
Ressa, 204.
ressa (Sterna), 204.
retifer (Dissemurus), 582.
—— (Edolius), 407.
retrocinctum (Dicæum), (1875) 364, 411, (1877) 523, 536.
Rhabdornis, 298, 365.
—— mystacalis, (1875) 365, 412, (1878) 572, 642, (App.) 658.
Rhamphococcyx, 155.
Rhinortha chlorophæa, 63, 478.
Rhipidura, 133, 134.
—— caniceps, 347.
—— nigritorquis, 122, 347, (App.) 656.
rhizophoræ (Arachnecthra), 75, 365.

rhizophoræ (Cinnyris), 615.
—— (Cyrtostomus), 615.
Rhizothera longirostra, 232.
rhodiosternus (Harpactes), 316.
rhodogastra (Teraspiza), 137, 207, 215.
Rhopodytes, 132, 155, 296.
—— diardi, 478.
—— erythrognathus, 478.
Rhyacophilus, 396.
—— glareola, (1875) 396, 412, (1877) 528, (1878) 624.
Rhynchæa, 398.
—— sp. ?, 398.
—— capensis, (1875) 398, 413, (1877) 461, 475, 514, 528, 560, (1878) 601, 644, (App.) 660.
—— variegata, 398.
Rhytidoceros obscurus, 482.
—— plicatus, 482.
—— undulatus, 482.
richardi (Corydalla), 362.
ridibundus (Cuculus), 62, 64.
—— (Larus), (1875) 405, (1877) 460, 475, (App.) 660.
—— (Piaya), 64.
riedeli (Tanysiptera), 148, 209.
Rimator malacoptilus, 433.
risoria (Fringilla), 29, 54.
roberti (Pnoepyga), 291, 669.
—— (Sphenocichla), 291, 670.
robusta (Typhon), 197.
Rollulus, 132, 388.
—— sp.?, (1875) 388, 412, (1878) 654, 659.
—— rouloul, 232, 503.
roratus (Eclectus), 306.
rosa (Palæornis), 278.
rosacea (Ducula), 184.
rosaceicollis (Capito), 324.
rosea (Xantholæma), (1872) 118, (1875) 299, 324, 410, (1877) 477, 487, 530, 531, 532, (1878) 588, (App.) 656.
rosenbergi (Pitta), 353.
—— (Rallina), 195.
—— (Strix), 144, 313.
roseus (Bucco), 324, 487.
—— (Pelecanus), 407, 413, 660.
—— (Pericrocotus), 432.
rostrata (Turnix), 526.
rouloul (Phasianus), 503.
—— (Rollulus), 232, 503.
rubecula (Geocichla), 96.
rubeculoides (Cyornis), 226, 432.
rubeculoides (Myiagra), 168.
—— (Phœnicura), 226.
ruber (Cinnyris), 86, 489.
—— (Lanius), 339.
—— (Oriolus), 370.
Rubetra lucionensis, 357.
—— philippinensis, 357.
rubiginosa (Gallinula), 393.
—— (Geocichla), 96.
—— (Porzana), 393.
rubiginosum (Trichostoma), 415, 670.
Rubigula, 34, 37.
—— aberrans, 36.
—— dispar, 477.
—— gularis, 34, 36.
—— melanictera, 36.
rubineus (Brachypus), (1866) 34, 35, 36, 37.
rubra (Certhia), 126.
rubricapilla (Columba), 385.
—— (Mixornis), 24, 25, 228.
—— (Motacilla), 24, 25, 227.
rubricapillus (Bucco), 324.
rubricaudata (Cinnyris), 82.
rubricollis (Bucco), 323.
rubrifrons (Fringilla), 671.
—— (Psittacula), 303.
rubrinigra (Loxia), 174.
—— (Munia), (1871) 112, (1872) 174, (1875) 371, 372, (1877) 537.
rubripes (Megacephalon), 187, 188.
—— (Megapodius), 187.
rubritorques (Penthera), 374.
—— (Vidua), 374.
rubriventre (Dicæum), (1875) 411, (1877) 523, 536, 555, (1878) 570, 641, (App.) 658.
rufa (Caccabis), 200.
—— (Calialcyon), 147.
—— (Tchitrea), 348.
—— (Tiga), 102, 103, 479.
rufescens (Pelecanus), 407.
—— (Rallus), 392.
—— (Scops), 655.
ruficauda (Setaria), 648.
ruficaudatus (Pycnonotus), 107.
ruficeps (Cisticola), 359, 592.
—— (Edela), 615.
—— (Macropygia), 112.
—— (Megalurus), (1877) 509, 513, 520, 530, 534, (1878) 591, 649, (App.) 657.

ruficeps (Megapodius), 388.
—— (Mixornis), 24, 25, 228.
—— (Orthotomus), 615, 658.
—— (Rallus), 393.
ruficollis (Buceros), 482, 483.
—— (Cinnyris), 90.
—— (Cisticola), 98, 664.
—— (Pastor), 178, 367, 368.
—— (Tringa), (1873) 249, (1875) 397, 412, (App.) 660.
—— (Turdus), 433.
rufidorsa (Ceyx), 485.
rufifrons (Trichostoma), (1878) 607, 611, 657, (App.) 670.
rufigastra (Alcedo), (1873) 252, (1874) 260, 289, (1875) 418, (App.) 663.
—— (Muscicapa), 214.
rufigula (Cyornis), 167, 206.
rufigularis (Hypsipetes), (1877) 461, 462, 470, 553, (1878) 640, 649, (App.) 657.
—— (Minla), 663.
rufilatus (Turnix), 187.
rufinus (Centropus), 161.
rufipectus (Spilornis), 139, 219.
rufipennis (Centrococcyx), 159, 160, 221.
—— (Centropus), (1869) 70, (1872) 158, 159, 160.
—— (Macropygia), 247.
rufipes (Himantopus), 391.
—— (Megacephalon), 187.
rufirostris (Alcedo), 320, 321.
rufitorques (Accipiter), 138.
—— (Astur), 138.
rufiventer (Eudynamis), 69, 328.
rufiventris (Polyphasia), 428.
rufosuperciliaris (Anthus), 263.
rufovittatus (Cacomantis), 157.
—— (Cuculus), 157, 222.
rufula (Corydalla), (1866) 28, (1873) 263, (1875) 362, 363, (1877) 555.
rufulus (Anthus), 28.
—— (Gampsorhynchus), 417.
—— (Turdus), 105, 351, 433.
rufus (Polophilus), 161.
—— (Tantalus), 395.
—— (Zeocephus), (1875) 348, 411, (1877) 514, (App.) 657.
rupestris (Cotile), 434.
Rupicola viridis, 223.
rupicola (Falco), 137.
rustica (Hirundo), 167, 513.
rutherfordi (Spilornis), 236, 237.
Ruticilla phœnicura, 47.
—— suecica, 263.
rutilans (Lanius), 43.
—— (Passer), 668.
rutilus (Harpactes), 101, 486.
—— (Scops), 143.
—— (Trogon), 101.

saccharina (Certhia), 72.
—— (Cinnyris), 72.
sacer (Palæornis), 275.
sacra (Ardea), 250, 475, 504.
—— (Demiegretta), (1872) 199, 249, (1873) 250, 251, (1877) 460, 462, 475, 504, (App.) 660.
salangana (Hemiprocne), 258.
salina (Tringa), 249, 397.
samoensis (Porphyrio), 191.
sancta (Sauropatis), 147.
sanghirana (Pitta), 353.
sanghirensis (Cittura), 148.
sanguinea (Columba), 384.
sanguineus (Picus), 145.
sanguinifrons (Dicæum), 671.
sanguinipectus (Æthopyga), 414, 511, 663.
sapphira (Muscicapula), 432.
Saraglossa spiloptera, 417.
Sarcophanops, 648.
—— steerii, 569, 648, 658.
Sarcops, 298, 369.
—— calvus, (1875) 369, 412, (1877) 524, 558, (1878) 572, 593, 599, 642, 650, (App.) 658.
—— lowii, 658.
Sasia, 32, 296, 427.
—— abnormis, 481.
saturata (Æthopyga), 83, 414.
—— (Lioptila), 667.
saturatus (Cuculus), 213.
saularis (Copsychus), (1866) 27, (1871) 110, (1872) 120, (1873) 242, (1877) 494.
—— (Gracula), 27.
Sauropatis, (1866) 31, (1872) 129, 147, (1875) 322.
—— chloris, (1872) 119, 147, (1873) 238, (1875) 322, 410, (1877) 460, 462, 465, 484, 516, 531, 549, (1878) 567, 588, 596, 621, 628, 647, (App.) 655.
—— forsteni, 147.
—— sancta, 147.
Saurothera vetula, 63.
savignii (Merops), 316.
savignioides (Merops), 316.

saxatilis (Petrocincla), 55.
Saxicola, 14.
—— bicolor, 357.
—— erythropygia, 357.
—— fruticola, 357.
—— leucocampter, 358.
—— melaleuca, 357.
scapularis (Ægithina), (1877) 490, 491, (1878) 614, (App.) 657.
—— (Iora), (1866) 27, 34, (1877) 490, (1878) 614.
—— (Turdus), 490.
Scelostrix, 312, 313.
—— candida, (1875) 312, 410, (1877) 531, (App.) 655.
schach (Lanius), (1868) 50, (1875) 336, 411, (App.) 654, 656.
schierbrandi (Volvocivora), 496.
schistacea (Ardea), 250.
schistaceum (Dicæum), (1877) 564, (1878) 566, 570, (App.) 658, 665.
schisticeps (Palæornis), (1874) 270, 274, 279, 280.
—— (Pomatorhinus), 563.
schlegeli (Caprimulgus), 326.
Schœniclus magnus, 267.
schœnicola (Cisticola), 166.
Schœniculus australis, 560.
schomburgki (Chrysococcyx), 428.
—— (Cuculus), 428.
schwaneri (Lanius), 45, 48, 338.
—— (Otomela), 45.
Scissirostrum, 130, 181.
—— dubium, 181.
—— pagii, 181.
sclateri (Loriculus), 124, 136.
scolopacea (Eudynamis), 63.
scolopaceus (Cuculus), (1869) 58, 59, 63, 65.
scolopacina (Gallinago), (1875) 397, 412, (1877) 528, (1878) 601, 625, (App.) 660.
Scolopax ægocephala, 594.
—— calidris, 396.
—— capensis, 398, 475.
—— cinerea, 624.
—— gallinago, 397.
—— glottis, 396.
—— heterocerca, 398.
—— heterura, 397.
—— incanus, 474, 601, 624.
—— limosa, 396.
—— luzoniensis, 395.
—— phæopus, 395, 474.
Scolopax stenura, 397, 475.
—— totanus, 396.
Scops, 3, 97, 633.
—— aldrovandi, 3.
—— capensis, 3.
—— everetti, (1878) 627, 633, 646, (App.) 655, 669.
—— griseus, 97.
—— lempiji, 633.
—— leucospilus, 633.
—— madagascariensis, 143.
—— malabaricus, 97, 665.
—— malayanus, 3, 669.
—— mantis, 205, 256.
—— modesta, 253, 256, 670.
—— pennatus, 426.
—— rufescens, 655.
—— rutilus, 143.
—— senegalensis, 3.
—— sunia, 426.
—— umbratilis, 633.
scops (Ephialtes), 426.
scutellata (Ninox), 220, 256, 257.
scutulata (Ninox), 478.
—— (Strix), 144, 478.
Scythrops, 129, 131, 154.
—— novæ-hollandiæ, 154.
secretarius (Otis), 308.
seheriæ (Æthopyga), 80.
—— (Nectarinia), (1866) 19, (1870) 80, (1876) 429, 430.
seloputo (Syrnium), 426.
semigaleatus (Buceros), (1878) 585, 586, 597, 602, 603. (App.) 656, 664.
semirufa (Cisticola), (1875) 359, 411, (1877) 554, (1878) 592, (App.) 654, 657.
semitorquatus (Falco), 233.
—— (Poliohierax), 620.
senegalensis (Centropus), 63.
—— (Cuculus), 63, 65.
—— (Pica), 346.
—— (Scops), 3.
senex (Pastor), 50, 179.
seniculus (Cuculus), 64.
sepium (Orthotomus), 496.
septimus (Batrachostomus), (1877) 461, 466, (1878) 635, (App.) 656, 663.
septorum (Coccyzus), 64.
—— (Cuculus), 62.
sepulchralis (Cacomantis), (1872) 157, 213, 214, (1878) 627, 636, (App.) 656.

sepulchralis (Cuculus), 157, 636.
sericea (Criniger), 229.
—— (Horeites), 511, 662, 666.
sericeus (Cinnyris), 89.
—— (Falco), 306.
—— (Hierax), 307.
—— (Ierax), 307.
serratus (Coccystes), 64.
—— (Cuculus), 61, 64.
Setaria ruficauda, 648.
setarius (Psittacus), 135.
setifer (Dissemurus), 582.
—— (Edolius), 110, 497.
Setornis criniger, 218, 228, 229.
severus (Falco), 117, 306.
—— (Hypotriorchis), (1872) 136, (1875) 306, 410, (1878) 629, (App.) 655.
seyffertitzii (Turdus), 351.
sharpii (Ceyx), 223.
shelleyi (Æthopyga), 616, 658.
sheltobriuschka (Budytes), 56.
shorii (Tiga), 427.
siamensis (Acridotheres), 367, 419.
—— (Zosterops), 431.
Sibia, 433.
—— melanoleuca, 433.
—— picaoides, 417, 433.
—— picata, 434.
sibirica (Muscicapa), 242.
sibiricus (Turdus), 512.
signata (Emberiza), 374.
signatus (Psittacus), 305.
silens (Lanius), 170.
similaris (Munia), 53.
similis (Mixornis), 228.
—— (Sterna), 202.
—— (Timelia), 228.
simplex (Arachnecthra), 79.
—— (Arachnophila), 488.
—— (Arachnoraphis), 79.
—— (Arachnothera), 488.
—— (Gerygone), 359, 411, 657.
—— (Nectarinia), 488.
—— (Psittacus), 304.
—— (Zosterops), 363.
simus (Cacomantis), 157.
—— (Cuculus), 157.
sinensis (Ardetta), (1872) 198, (1875) 399, 413, (App.) 660.
—— (Ardea), 399.
sinensis (Broderipus), 351.
—— (Carbo), 408.
—— (Centrococcyx), 159.
—— (Centropus), 159.
—— (Coccothraustes), 112, 371.
—— (Cuculus), 63.
—— (Hydrophasianus), 395.
—— (Ixus), (1875) 355, 411, (App.) 654, 657.
—— (Loxia), 112.
—— (Munia), 372.
—— (Muscicapa), 355.
—— (Oriolus), 179.
—— (Parra), 395.
—— (Pelecanus), 408.
—— (Urocissa), 63.
singalensis (Anthreptes), 21.
—— (Chalcoparia), 91, 93.
—— (Motacilla), 21, 93, 490.
sinica (Columba), 112.
siparaja (Æthopyga), (1870) 81, 104, 105, (1872) 231, (1877) 488.
—— (Certhia), 104, 105, 488.
Siphia hyperythra, 233.
Sitta, 52.
—— castaneiventris, 429.
—— cinnamomeiventris, 429.
—— corallina, 429.
—— formosa, 428.
—— himalayensis, 93, 429.
—— neglecta, 93, 670.
sivalensis (Palæornis), 275, 276.
smaragdinus (Chalcites), 63.
—— (Chrysococcyx), 63.
—— (Porphyrio), 191.
smyrnensis (Alcedo), 30, 320, 321.
—— (Entomobia), 239, 321, 322.
—— (Halcyon), 30, 104.
sola (Cinnyris), 84.
solaris (Arachnecthra), 79, 84.
—— (Cinnyris), 84, 615.
—— (Cyrtostomus), 615, 616.
—— (Pericrocotus), 432.
solitarius (Cuculus), 328.
—— (Monticola), (1872) 164, 262, (1875) 357, 411, (1877) 521, (1878) 598, 604, 614, 640, (App.) 657.
—— (Petrocossyphus), 119.
—— (Turdus), 357.
soloensis (Dædalion), 308.
—— (Falco), 308.

soloensis (Tachyspiza), (1872) 138, 208, (1875) 308, 410, (App.) 655.
sondaicus (Picus), 481.
sonitans (Prinia), 90.
sonnerati (Cacomantis), 157.
—— (Cuculus), 157.
—— (Penthoceryx), 222.
—— (Phyllornis), 491.
—— (Psittacus), 305.
sordida (Emberiza), 265.
—— (Fringillauda), 53.
—— (Glaucomyias), 93, 666.
—— (Melanopitta), (1875) 351, 411, (1878) 639, (App.) 657.
—— (Pitta), 353.
—— (Tephrodornis), 109.
sordidus (Brachyurus), 352.
—— (Dendrocopus), 481.
—— (Hemicercus), 481.
—— (Turdus), 352.
souimanga (Certhia), 88.
spadiceus (Galloperdix), 541.
Sparactes cristata, 272.
sparmanni (Indicator), 65.
sparverioides (Cuculus), 428.
—— (Hierococcyx), 124, 327, 654.
spatuliger (Prioniturus), 300.
—— (Psittacus), 300.
—— (Urodiscus), 300.
speciosa (Ardeola), 197, 198, 268.
—— (Dasycrotopha), (1878) 574, 586, 587, 591, (App.) 657, 665.
speciosus (Pericrocotus), (1871) 110, (1872) 225, (1873) 243, (1876) 432.
spectabilis (Artamus), 627.
sperata (Anthreptes), 84.
—— (Certhia), (1870) 77, 78, 86, 87, 88, 92, 93, (1875) 364, (1877) 489.
—— (Nectarinia), 77, 365.
—— (Nectarophila), (1870) 72, 77, 87, 92, (1875) 364, 411, (1877) 556, (1878) 571, 592, 599.
speratus (Cinnyris), 556, 658.
Spermestes melanocephalus, 372.
Sphagias, 37.
Sphenocichla, 291, 670.
—— roberti, 291, 670.
sphynx (Spizaetus), 255.
spilocephala (Ninox), (1878) 627, 631, 646, (App.) 655, 668.
spilogaster (Spilornis), 236, 237.
spilolophus (Picus), 314.
spilonotus (Circus), (1875) 311, 410, (1877) 512, (App.) 655.
Spilopelia tigrina, 503.
spiloptera (Saraglossa), 417.
Spilornis, (1872) 128, 139, 218, (1875) 309.
—— albidus, 236.
—— bacha, (1872) 218, 219, 220, (1873) 236, 237, (1874) 255.
—— cheela, (1872) 218, 219, (1873) 236, 237.
—— davisoni, 236.
—— elgini, 237, 255.
—— holospilus, (1875) 309, 410, (1877) 515, 530, 547, (1878) 596, 630, 646, (App.) 655.
—— pallidus, 219, 670.
—— rufipectus, 139, 219.
—— rutherfordi, 236, 237.
—— spilogaster, 236, 237.
spilorrhoa (Myristicivora), 184.
spinoletta (Alauda), 55.
Spizaetus albiniger, 308.
—— andamanensis, 255.
—— cirrhatus, 138.
—— cristatellus, 138.
—— kieneri, 308.
—— philippensis, 308.
—— sphynx, 255.
splendens (Criniger), 432.
spodiopygia (Collocalia), 259.
squamata (Pnoepyga), 432.
squamatus (Ixus), 37.
squamosus (Picus), 314.
squamotorquata (Psittacula), 301.
Squatarola, 389.
—— helvetica, (1872) 122, (1874) 266, (1875) 389, 412, (1877) 559, (App.) 659.
Stachyrhis, 291, 417.
—— assimilis, 661, 670.
—— nigriceps, 433.
stagnatilis (Totanus), 268.
steerii (Brachyurus), 640.
—— (Eurylæmus), 569, 648.
—— (Melanopitta), 640, 657.
—— (Oriolus), 530, 648, 657.
—— (Sarcophanops), 569, 648, 658.
stellatus (Batrachostomus), (1877) 438, 439, 440, 441, 442, 444, 446, 452, 453, 454, 459, 507, 508.
—— (Podargus), 443, 452.
stenura (Gallinago), (1873) 249, (1877) 461, 462, 475, (App.) 660.

stenura (Scolopax), 397, 475.
stephani (Chalcophaps), 185, 186, 211.
Sterna affinis, 203.
—— albigena, 436.
—— anasthætus, 406.
—— bengalensis, 203.
—— bergii, (1872) 203, 204, (1877) 461, 462, 475, 504, (1878) 602, 625, 628, (App.) 660.
—— brachyura, 138, 405.
—— delamotta, 202.
—— fluviatilis, 138, 436.
—— grisea, 202.
—— hybrida, 202, 475.
—— leucopareia, 405.
—— media, 504.
—— melanauchen, 32.
—— multicolor, 404.
—— panaya, 202, 406.
—— panayensis, 203, 406.
—— paradisea, 269.
—— pelecanoides, 203.
—— philippina, 406.
—— pileata, 406.
—— ressa, 204.
—— similis, 202.
—— stolida, 406.
—— sumatrana, 202, 203.
—— velox, 203, 204.
Sternula, 215.
—— minuta, 215.
stevensoni (Accipiter), (1878) 627, 629, 630, (App.) 655.
stictopterus (Batrachostomus), (1877) 440, 452, 507, 508.
stigmatus (Loriculus), 124, 131, 136.
stolida (Sterna), 406.
stolidus (Anous), 406, 413, 660.
stracheyi (Emberiza), 55.
stramineicollis (Gallus), 659.
strenuus (Hierococcyx), (1875) 327, 411, (App.) 654, 656.
Strepsilas, 130, 190.
—— interpres, (1872) 190, (1873) 248, (1878) 621, 624, (App.) 659.
Streptocitta, 130, 175, 176.
—— albicollis, 176.
—— caledonica, 176, 177.
—— torquata, 177.
Streptopelia humilis, 383.
striata (Columba), 386, 503.
—— (Fringilla), 266.
striata (Geopelia), (1871) 112, (1872) 186, (1875) 386, 412, (1877) 503, 513, 525, (App.) 659.
—— (Hypotænidia), (1872) 194, 233, (1874) 267, (1875) 394, 412, (1877) 541, 560, (1878) 601, (App.) 660, 666.
—— (Loxia), 54, 265.
—— (Munia), 29, 266.
striaticeps (Macronus), (1877) 553, (1878) 569, 573, 640, (App.) 657.
striatus (Alcurus), 230.
—— (Corvus), 340.
—— (Cuculus), 428.
—— (Dicrurus), (1877) 461, 469, 552, (1878) 568, 583, 603, 609, 639, 648, (App.) 656, 665.
—— (Graucalus), (1873) 245, (1875) 340, 409, 411, (1877) 518, 532, 552, (App.) 656.
—— (Rallus), 267, 394.
—— (Turdinus), 98, 433, 670.
stricklandi (Chrysocolaptes), 464.
striga (Lanius), 496.
—— (Turdus), 368.
strigatus (Lanius), 44, 45.
—— (Turdus), 111, 180.
strigula (Certhia), 74.
—— (Cinnyris), 73, 74.
striolata (Climacteris), 365.
—— (Corydalla), 263.
—— (Hirundo), 350, 654, 657.
striolatus (Gecinus), 17.
Strix, 129, 144.
—— amauronota, 312.
—— candida, 312, 313.
—— dumeticola, 426.
—— hirsuta, 144.
—— lugubris, 144, 631.
—— pithecops, 312.
—— rosenbergi, 144, 313.
—— scutulata, 144, 478.
—— walleri, 313.
strophiata (Muscicapula), 432.
Sturnia, (1872) 128, 178, 179, (1875) 367.
—— albofrontata, 179.
—— andamanensis, 246.
—— daurica, 178, 179.
—— dominicanus, 368.
—— pyrrhogenys, (1872) 178, 179, (1875) 368, 369.
—— sturnina, 368.
—— violacea, (1875) 367, 368, 412, (App.) 658.
sturnina (Gracula), 368.
—— (Sturnia), 368.

sturnina (Turdus), 368.
sturninus (Pastor), 368.
Sturnopastor, 419.
—— contra, 477, 501.
—— melanopterus, 339.
Sturnus, 179.
—— contra, 501.
—— dauricus, 178, 368.
—— zeylanicus, 230.
suavis (Kittacincla), 230.
subarquata (Tringa), 267.
subbuteo (Hypotriorchis), 117.
subflavescens (Calamoherpe), 606.
subflavus (Cinnyris), 92.
subminuta (Tringa), 196, 249.
subochraceum (Pellorneum), (1877) 504, 505, 506, 510, 511.
subruficollis (Buceros), 484.
subsignata (Locustella), 262.
subtridactyla (Tringa), 389.
suecica (Ruticilla), 263.
Sula fiber, 204.
sula (Dysporus), (1872) 204, (1875) 407, 413, (1878) 573, 645, (App.) 660.
—— (Pelecanus), 407.
sulcatus (Buceros), 153, 331, 332.
sulcirostris (Buceros), 332, 334.
sulphurata (Crithagra), 116.
sulphurea (Cacatua), 134.
—— (Calobates), 360, 361, 362.
sulphuriventris (Hyloterpe), (1872) 126, 214, (1875) 344, (App.) 666.
sultanea (Melanochlora), 28.
sultaneus (Parus), 28.
sumatrana (Ardea), 197.
—— (Mixornis), 25, 228.
—— (Sterna), 202, 203.
sumatranus (Coracias), 500.
—— (Corydon), 223, 500.
—— (Cuculus), 156.
—— (Merops), (1875) 317, 318, 319, 409, (1877) 485.
—— (Rallus), 504.
—— (Psittacus), 135, 476.
—— (Tanygnathus), 544.
sumatrensis (Ceblepyris), 342, 496, 609.
—— (Graucalus), 496, 609, 656.
sunia (Scops), 426.
superbus (Ptilopus), 183.
superciliaris (Columba), 385.
superciliaris (Gymnorhis), 671.
—— (Hypothymis), 648, 657.
—— (Muscicapula), 432.
—— (Phœnicura), 90.
—— (Rallus), 194.
—— (Tephrodornis), 263.
—— (Turdinus), 141, 670.
superciliosa (Otomela), 43.
superciliosus (Dasylophus), (1875) 329, 411, (1877) 517, (App.) 656.
—— (Enneoctonus), 43.
—— (Lanius), (1867) 38, 39, 42, 43, 45, 46, 48, (1869) 56, (1875) 337, 338.
—— (Phœnicophaes), 329.
Surniculus lugubris, 222, 608, 656.
—— velutinus, (1877) 549, (1878) 636, 647, 656.
Suthora munipurensis, 290, 670.
sutorius (Orthotomus), 496.
Suya erythropleura, 662, 670.
swainsoni (Circus), 426.
—— (Graucalus), 245, 342, 343.
sylvatica (Acanthylis), 434.
—— (Carpophaga), 379.
—— (Columba), 245, 378.
—— (Motacilla), 357.
Sylvia atricapilla, 36.
—— cingalensis, 21.
—— cisticola, 166.
—— flava, 363.
—— leucoptera, 33.
—— turdoides, 359.
Syma, 133.
Syrnium indranee, 426.
—— nivicola, 426.
—— philippense, 312.
—— seloputo, 426.

Tachyspiza, 129, 138, 308.
—— soloensis, (1872) 138, 208, (1875) 308, 410, (App.) 655.
tæniata (Certhia), 90.
tahitia (Eudynamis), 64.
tahitius (Cuculus), 64.
taitiensis (Cuculus), 70.
takko (Turdus), 354.
Tantalus albicollis, 396.
—— castaneus, 200.
—— falcinellus, 200.
—— manillensis, 395, 396.

Tantalus melanopis, 396.
—— rufus, 395.
—— variegatus, 395.
Tanygnathus, (1872) 129, 133, 135, (1875) 301.
—— albirostris, 135, 544.
—— burbidgii, 655.
—— everetti, (1871) 543, 544, 561, (App.) 655, 670.
—— luzonensis, (1875) 301, 410, (1877) 460, 462, 529, 530, 544, (1878) 587, 595, 607, 628, 646, (App.) 655.
—— muelleri, (1872) 115, 135, (1875) 301, (1877) 544, 545.
—— sumatranus, 544.
Tanysiptera nympha, 321.
—— riedeli, 148, 209.
Tchitrea, (1869) 52, (1872) 132, 133, (1875) 296.
—— affinis, (1872) 226, 243, (1875) 499, (App.) 671.
—— cristata, 122.
—— paradisi, 226.
—— rufa, 348.
teesa (Butastur), 426.
telfairi (Platalea), 403.
Temenuchus, 179.
—— albofrontatus, 50.
—— andamanensis, 246.
—— dauricus, 369.
—— pagodarum, 53.
temmincki (Æthopyga), 81.
—— (Arachnothera), 488.
—— (Coracias), 146.
—— (Corydon), 223.
—— (Graucalus), 170, 210, 215.
—— (Lyncornis), (1845) 12, (1872) 209, 223, (1877) 486, (1878) 635, 664.
—— (Yungipicus), 145, 208.
Temnurus, 132, 296.
tenebrosa (Gallinula), 193.
tenebrosus (Cuculus), 64.
Tenthaca, 109.
—— pelvica, 109.
tenuirostris (Cacomantis), 156.
—— (Corvus), 502.
—— (Cuculus), 18, 59, 156.
—— (Macropygia), (1873) 247, (1875) 382, 412, (1878) 594, (App.) 659.
—— (Platalea), 403.
—— (Polyphasia), 18.
—— (Totanus), 268.
—— (Treron), 377.
—— (Tringa), 268.
Tephrodornis, (1872) 109, 132, (1873) 242, 296.
—— grisola, 109, 264, 344.
—— pondiceriana, 109.
—— sordida, 109.
—— superciliaris, 263.
tephronotus (Lanius), 51.
Teraspiza, 129, 137, 308.
—— rhodogastra, 137, 207, 215.
—— virgata, 308, 410, 655.
terat (Lalage), 343.
—— (Turdus), 170, 343, 496.
Terekia cinerea, 621, 624, 660.
tessacourbe (Muscicapa), 349.
Tetrao chinensis, 387.
—— curvirostris, 232.
—— ferrugineus, 186.
—— gingicus, 386.
—— luzoniensis, 387.
—— manillensis, 387.
—— perlatus, 186.
—— porphyrio, 232.
—— viridis, 232, 503.
Tetraogallus tibetanus, 55.
Thalasseus poliocercus, 204.
—— torresi, 203.
Thamnobia, 52, 358.
—— fulicata, 357.
Thamnophilus doliatus, 39.
thoracicus (Cinnyris), 92.
—— (Hemipodius), 387.
threnodes (Cacomantis), 156, 636.
—— (Cuculus), 156.
Thriponax, 103, 313, 602.
—— crawfurdi, 313.
—— feddeni, 103.
—— gutturalis, 103.
—— javensis, (1871) 103, (1875) 313, 410, (1877) 479, 515, 548, (1878) 595, 596, 633, 646, (App.) 655.
—— hodgii, 238.
—— hodgsoni, 103, 313.
—— pectoralis, (1878) 595, 596, 602, 603, (App.) 655, 670.
tibetanus (Corvus), 55.
—— (Tetraogallus), 55.
Tichodroma, 52.
tickelli (Aceros), 435.
—— (Drymocataphus), 510.
—— (Pellorneum), (1877) 504, 505, 510, (App.) 665.
tickelliæ (Cyornis), 215, 216.
Tiga, 103, 132, 296.

Tiga everetti, 607, 655, 670.
—— intermedia, 427, 479.
—— javanensis, 479, 607.
—— rafflesi, 479.
—— rufa, 102, 103, 479.
—— shorii, 427.
tiga (Picus), 479.
tigrina (Columba), 503.
—— (Spilopelia), 503.
—— (Turtur), 155, 231.
tigrinus (Lanius), 44, 45.
Tigrisoma limnicola, 401.
—— typus, 401.
Timelia, (1872) 132, 216, (1875) 296, (1876) 433, (1877) 520.
—— bengalensis, 419.
—— chatarea, 520.
—— chatarrhæa, 354.
—— erythronota, 227.
—— erythroptera, 493.
—— flavicollis, 25, 228.
—— gularis, 25, 228.
—— jerdoni, 216, 670.
—— leucotis, 354, 433.
—— nigricollis, 227.
—— pileata, 216, 217, 670.
—— pyrrhophæa, 493.
—— similis, 228.
—— trichorros, 227, 493.
timorensis (Chalcophaps), 385.
—— (Columba), 385.
—— (Corvus), 501.
Tinnunculus, 129, 137.
—— moluccensis, 137.
Todiramphus collaris, 31.
—— funebris, 147.
Todopsis, 133.
Todus macrorhynchus, 499.
—— nasutus, 224.
tolu (Centropus), 65.
—— (Cuculus), 65, 160.
topela (Munia), 372.
Toria, 182.
—— nasica, 182.
—— nipalensis, 182, 502.
torquata (Hypotænidia), (1875) 394, 412, (1877) 527, 541, 560, (1878) 573, 594, 601, (App.) 660.
—— (Myiagra), 348.
—— (Streptocitta), 177.
—— (Urospiza), 205.
torquatus (Gampsorhynchus), 417.
—— (Palæornis), (1874) 274, 276, 277, (1875) 305.
—— (Psittacus), 301, 302.
—— (Rallus), 194, 394.
torresi (Thalasseus), 203.
Totanus, (1872) 130, 196, (1874) 268, (1875) 396.
—— acuminatus, 560.
—— calidris, (1872) 196, (1874) 267, (1875) 396, 412, (1878) 645, 651, (App.) 660.
—— canescens, 660.
—— damacensis, 397.
—— glareola, 504.
—— glottis, 196, 396, 412.
—— hypoleucus, 560.
—— incanus, (1877) 460, 474, 542, (1878) 601, 624, (App.) 660.
—— stagnatilis, 268.
—— tenuirostris, 268.
totanus (Scolopax), 396.
toulou (Cuculus), 65.
Trachycomus, 230.
—— ochrocephalus, 230.
trailli (Psarolophus), 431.
tranquebarica (Turtur), 383.
tranquilla (Monasa), 64.
tranquillus (Cuculus), 64.
Treron, 182.
—— amboinensis, 375.
—— aromatica, 374, 375.
—— axillaris, 374, 375, 473.
—— chloroptera, 376.
—— curvirostra, 376.
—— flavigularis, 376.
—— griseicapilla, 182, 503.
—— griseicauda, 375, 376.
—— nasica, (1872) 182, (1877) 502, (1878) 618, (App.) 659.
—— nipalensis, 182, 502.
—— pulverulenta, 182, 376.
—— tenuirostris, 377.
—— vernans, 182.
—— viridis, 182.
Trichixus pyrrhopygus, 14, 670.
Trichoglossus, 113, 129, 136.
—— flavoviridis, 113.
—— meyeri, (1871) 113, (1872) 136, 206, (App.) 670.
—— ornatus, 136.
Tricholestes criniger, 492.
—— minutus, 492.

Trichophoropsis, 229.
—— typus, 229.
—— viridis, 229.
Trichophorus caniceps, 107.
—— crispiceps, 230.
—— minutus, 239, 492.
trichorros (Timelia), 227, 493.
Trichostoma, (1872) 128, 163, 164, (1875) 296, (1876) 435, (1878) 611.
—— abbotti, 433, 511, 611.
—— bicolor, 164.
—— celebense, (1872) 163, 210, (1876) 435, 436.
—— finschi, 436, 670.
—— leucoproctum, 437, 670.
—— minus, 511.
—— rubiginosum, 415, 670.
—— rufifrons, (1878) 607, 611, (App.) 657, 670.
—— umbratile, 435.
tricolor (Ceblepyris), 342.
—— (Certhia), 76.
—— (Corvus), 121.
—— (Gymnops), 120, 370.
—— (Lanius), 335, 336, 532.
—— (Lorius), 306.
—— (Muscicapula), 14, 667.
—— (Turdus), 358.
tridactyla (Ceyx), (1872) 223, (1874) 261, (1875) 320, 321, 410, (App.) 655.
trigonostigma (Certhia), 22, 489.
—— (Dicæum), (1866) 22, (1872) 230, (1876) 430, 431, (1877) 489, 523, (App.) 654, 658.
Tringa, 130, 196, 397.
—— albescens, (1873) 249, (1878) 621, 625, (App.) 660.
—— chirurgus, 395.
—— crassirostris, 267, 268.
—— damacensis, 196.
—— glareola, 396, 504.
—— hypoleuca, 396, 474, 504.
—— interpres, 624.
—— magna, 267.
—— minuta, 196, 249, 397.
—— platyrhyncha, 624.
—— pugnax, 396.
—— ruficollis, (1873) 249, (1875) 397, 412, (App.) 660.
—— salina, 249, 397.
—— subarquata, 267.
—— subminuta, 196, 249.
—— subtridactyla, 389.
—— tenuirostris, 268.
Tringoides, 396.
—— hypoleucus, (1875) 396, 412, (1877) 460, 461, 474, 504, 528, 542, (1878) 601, 619, 624, 628, (App.) 660.
trinkutensis (Megapodius), 289.
trinotata (Erythrospiza), 137.
trinotatus (Nisus), 137.
tristigmata (Phlegœnas), 185.
tristis (Acridotheres), 246, 367.
—— (Meiglyptes), 221, 480.
—— (Paradisea), 367.
—— (Picus), 480.
trivirgata (Lophospiza), 307, 410, 655.
trivirgatus (Astur), (1876) 425, 426, (1877) 477, 547, (1878) 595.
—— (Falco), 307, 477.
Trochilus, 72.
Troglodytes, 253.
—— formosus, 253.
—— punctatus, 253.
troglodytes (Collocalia), (1874) 259, (1875) 325, 410, (1877) 549, (1878) 589, (App.) 656.
Trogon ardens, 316, 464.
—— cinnamomeus, 101.
—— cornutus, 64.
—— duvauceli, 101, 486.
—— kasumba, 486.
—— luzonensis, 324.
—— maculatus, 63, 65.
—— orescius, 16.
—— rutilus, 101.
Trugon, 133.
tukki (Meiglyptes), 480.
—— (Picus), 104, 480.
Turacœna, 129, 185.
—— menadensis, 185.
Turacus brasiliensis, 63.
—— persa, 63.
turcosa (Irena), (1870) 96, 97, (1871) 107, 108, (App.) 666.
Turdinus, (1845) 14, (1871) 98, (1875) 291, (1876) 433.
—— brevicauda, 433.
—— brevicaudatus, 292, 433, 670.
—— crispifrons, 433.
—— guttatus, 433.
—— insidiosus, 433.
—— leucotis, 433.
—— macrodactylus, 98, 433.
—— striatus, 98, 433, 670.

Turdinus superciliaris, 14, 670.
Turdirostris, 14, 670.
turdoides (Sylvia), 359.
Turdulus davisoni, 512.
Turdus, 48, 133, 351.
—— albicinctus, 433.
—— albospecularis, 349.
—— analis, 491.
—— atriceps, 37.
—— atrigularis, 433.
—— avensis, 163.
—— brevicauda, 352, 353.
—— camtschatkensis, 359.
—— cantor, 180, 369.
—— chalybeus, 111, 180, 501.
—— chrysolaus, (1871) 106, (1875) 351, 411, (1878) 605, (App.) 657.
—— cochinchinensis, 491.
—— columbinus, 180, 369.
—— dauma, 433.
—— davidianus, 351.
—— diardi, 48.
—— dispar, (1866) 34, 36, 37, (1877) 492.
—— dominicanus, 368.
—— dominicus, (1872) 170, 178, (1875) 343, (1877) 469, 496.
—— eremita, 165.
—— erythropterus, 358.
—— flammeus, 498.
—— ginginianus, 367.
—— griseus, 367.
—— gularis, 356.
—— insidiator, 111, 180.
—— javanicus, 351.
—— luzoniensis, 358.
—— macrurus, 27, 358, 494.
—— manilla, 164.
—— manillensis, 165.
—— mauritianus, 180.
—— melanocephalus, 492.
—— mindanensis, 119, 358.
—— modestus, 351.
—— mollissimus, 433.
—— obscurus, (1875) 351, 411, (1878) 605, (App.) 657.
—— occipitalis, 355.
—— ochrocephalus, 492.
—— orientalis, 170, 343.
—— pallens, 105, 351.
—— pallidus, 105.
Turdus palmarum, 180, 355.
—— philippensis, 165, 356.
—— philippinensis, 470.
—— phœnicopterus, 358.
—— podobe, 358.
—— ruficollis, 433.
—— rufulus, 105, 351, 433.
—— scapularis, 490.
—— seyffertitzii, 351.
—— sibiricus, 512.
—— solitarius, 357.
—— sordidus, 352.
—— striga, 368.
—— strigatus, 111, 180.
—— sturnina, 368.
—— takko, 354.
—— terat, 170, 343, 496.
—— tricolor, 358.
—— varius, 352, 605, 657.
—— verneri, 351.
—— viridis, 491.
Turnix, (1872) 129, 187, (1875) 387, 388, (1877) 526.
—— fasciata, (1877) 513, 526, 538, 539, (App.) 659.
—— nigrescens, (1877) 529, 538, 539, (App.) 659, 670.
—— ocellata, (1872) 123, (1875) 387, 412, (1877) 513, 526.
—— pugnax, 526, 538, 539.
—— rostrata, 526.
—— rufilatus, 187.
Turtur, (1872) 129, 185, (1875) 382, 383.
—— auritus, 384.
—— bitorquata, 382.
—— chinensis, 185.
—— dussumieri, (1875) 382, 383, 412, (1877) 525, 538, 539, (1878) 594, 600, 623, 628, 643, (App.) 659.
—— gaimardi, 382.
—— gelastes, 384.
—— humilis, 383, 412, 659.
—— luzoniensis, 383.
—— muroensis, 383.
—— tigrina, 185, 231.
—— tranquebarica, 383.
turtur (Columba), 384.
tusalia (Macropygia), 247, 417.
tweeddalii (Irena), 657.
tymbonomus (Cacomantis), 157.
—— (Cuculus), 157.
typhia (Ægithina), 490.

typhia (Iora), (1866) 27, 34, (1871) 106, (1876) 431.
—— (Motacilla), 27, 33.
Typhon robusta, 197.
typhon (Ardea), 197.
typica (Gazzola), 175, 176.
typicus (Merops), 316.
typus (Tigrisoma), 401.
—— (Trichophoropsis), 229.
tytleri (Calornis), 418.
—— (Hypothymis), 243.

umbratile (Trichostoma), 435.
umbratilis (Napothera), 435.
—— (Scops), 633.
undulata (Ardea), 402.
—— (Athene), 426.
—— (Loxia), 29.
—— (Munia), 29, 53.
undulatus (Buceros), 482, 484.
—— (Rhytidoceros), 482.
unicolor (Collocalia), 258.
—— (Cyornis), 94, 432.
—— (Cypselus), 258.
—— (Hirundo), 258.
—— (Philentoma), 226.
unirufus (Pyrrhocentor), 158, 330.
Upupa, 428, 431.
urbica (Chelidon), 434.
Urocissa sinensis, 63.
Urodiscus discurus, 300.
—— spatuliger, 300.
Uroloncha jagori, 372.
uropygialis (Lalage), 344.
—— (Limosa), 196.
—— (Numenius), 195, 395.
Urospiza torquata, 205.
urostictus (Brachypus), 356.
—— (Ixus), (1875) 356, 409, 411, (App.) 657.
—— (Poliolophus), (1877) 533, (1878) 570, 603, 640.
—— (Pycnonotus), 409.

vagans (Dendrocygna), (1872) 118, 201, (1875) 404, 413, (1877) 543, 561, (1878) 602, 625, 645, (App.) 660.
validirostris (Picus), 315, 633, 634.
—— (Yungipicus), 633, 646.
validissimus (Corvus), 473, 501.
validus (Corvus), (1872) 175, 211, (1875) 366, (1877) 472, 473, 501, 502, (1878) 617.
Vanellus, 389.
—— helveticus, 389.
Vanga flaviventris, 37.
vanicorensis (Hirundo), 149.
varians (Corvus), 29, 500.
—— (Crypsirhina), (1866) 29, (1872) 217, (1875) 419, (1877) 477, 500.
variegata (Actenoides), 322.
—— (Motacilla), 263.
—— (Rhynchæa), 398.
variegatus (Cuculus), 66, 328.
—— (Picus), 315, 481.
—— (Tantalus), 395.
varius (Turdus), 352, 605, 657.
velatum (Philentoma), 13, 226, 667.
velox (Sterna), 203, 204.
velutinus (Surniculus), (1877) 549, (1878) 636, 647, 656.
Venilia albertuli, 144.
venusta (Pitta), 105.
veredus (Eudromias), 188.
vernalis (Loriculus), 17, 101, 236.
—— (Psittacus), 17.
vernans (Columba), 374, 503.
—— (Osmotreron), (1872) 182, 211, (1875) 374, 412, (1877) 503, 537, (1878) 618, 623, 642, 650, (App.) 659.
—— (Treron), 182.
verneri (Turdus), 351.
versicolor (Bucco), 487.
—— (Megalæma), 487.
vetula (Cuculus), 63.
—— (Saurothera), 63.
Vidua rubritorques, 374.
vigorsi (Æthopyga), 80, 81.
Vinago affinis, 376.
—— gigantea, 502.
—— malabarica, 376.
vindhiana (Palæornis), 276.
violacea (Certhia), 77, 88.
—— (Motacilla), 367.
—— (Sturnia), (1875) 367, 368, 412, (App.) 658.
violaceus (Buceros), 3.
—— (Corvus), 473.
Viralva indica, 202.
virens (Megalæma), 102.
virescens (Calornis), 181.
—— (Dicæum), 414, 430.
virgata (Teraspiza), 308, 410, 655.
virgatus (Accipiter), 426, 630.

virgatus (Falco), 308.
—— (Lanius), 44.
viridanus (Gecinus), 17.
—— (Picus), 17.
viridescens (Calornis), 181.
—— (Edolius), 24, 345.
viridinucha (Phyllornis), 491.
viridis (Budytes), (1872) 116, 166, 167, (1873) 243, (1875) 360, 411, (1877) 522, (1878) 623, 641, (App.) 658.
—— (Calyptomena), 223, 499.
—— (Centrococcyx), (1872) 159, 160, 161, (1875) 329, 411, (1877) 460, 467, 517, 532, 550, (1878) 589, 597, 622, 637, (App.) 656.
—— (Centropus), (1869) 61, 65, (1872) 159, 161.
—— (Columba), 182, 374.
—— (Cuculus), 65, 329, 467.
—— (Iora), 614.
—— (Merops), 16, 145, 318.
—— (Motacilla), 369, 495.
—— (Numenius), 200.
—— (Phyllornis), 491.
—— (Rupicola), 223.
—— (Tetrao), 232, 503.
—— (Treron), 182.
—— (Trichophoropsis), 229.
—— (Turdus), 491.
viridissima (Ægithina), 490, 491, 511.
—— (Iora), 490.
vittatus (Cypselus), 434.
—— (Lanius), 109.
Vivia, 427.
Volvocivora, 129, 170, 343.
—— avensis, 432.
—— borneoënsis, 496.
—— cærulescens, (1875) 343, 409, 411, (1877) 518, 530, 533, (1878) 589, (App.) 656.
—— culminata, 496.
—— fimbriata, 432.
—— melaschistus, 170.
—— mindanensis, (1878) 627, 638, 656, (App.) 670.
—— morio, 170, 206, 639.
—— schierbrandi, 496.

waldeni (Æthopyga), 512.
—— (Buchanga), 579.
—— (Craniorrhinus), 656.
—— (Lanius), 109.
wallacii (Buchanga), 95, 664.
—— (Loriculus), 125.
wallacii (Macropteryx), 149.
—— (Muelleripicus), 562, 667.
—— (Prioniturus), 135.
walleri (Strix), 313.
wattersi (Alauda), 621, 623, 659.
winchelli (Halcyon), 634, 656.
wolfi (Circus), 141.
woodi (Mixornis), 612, 657.

xanthocephalus (Chrysocolaptes), (1872) 118, (1875) 299, 314, 410, (1877) 463, 464, 515, (App.) 655, 664.
xanthochlorus (Allotrius), 55.
—— (Pterythrius), 54.
Xanthodina petronella, 671.
xanthogaster (Lanius), 498.
—— (Pericrocotus), 110, 477, 498.
—— (Ptilopus), 205.
Xantholæma, 132, 133, 323.
—— duvauceli, 487.
—— hæmacephala, (1872) 102, (1875) 299, 323, 324, 410, (1876) 428, (1877) 487, 516, 532, 549, (1878) 635, (App) 656.
—— indica, 53, 102, 323.
—— philippensis, 323.
—— rosea, (1872) 118, (1875) 299, 324, 410, (1877) 477, 487, 530, 531, 532, (1878) 588, (App.) 656.
Xantholestes panayensis, 657.
xanthonotus (Oriolus), (1872) 228, (1877) 493, (1878) 611, (App.) 657.
Xanthopygia cyanomelæna, 10.
—— narcissina, 657.
xanthopygia (Muscicapa), 144, 667.
xanthopygium (Dicæum), (1877) 510, 513, 523, (App.) 658, 665.
xanthopygius (Prionochilus), 230, 658.
xanthorhynchus (Chrysococcyx), (1874) 261, (1876) 428, (1877) 438, 478.
—— (Cuculus), 327, 428, 478.
Xanthornis holosericeus, 370.
xanthorrhous (Ptilopus), 642.
xanthoschistus (Motacilla), 360.
Xanthosomus flavus, 370.
Xenotreron incognita, 558.

Yuhina, 428, 431.
Yungipicus, (1872) 128, 145, (1875) 315, (1878) 634.
—— aurantiiventris, 634.
—— auritus, 18.
—— canicapillus, 17.

Yungipicus fuscoalbidus, 481, 515, 634.
—— kisuki, 145, 209.
—— maculatus, (1875) 315, 410, (1877) 515, (App.) 655.
—— moluccensis, 17.
—— temmincki, 145, 208.
—— validirostris, 633, 646.
Yunx, 427.

Zanclostomus, 155.
—— javanicus, 478.
Zapornia flammiceps, 393.
—— nigrolineata, 194.
Zebrilus pumilus, 402.
zenobia (Arachnecthra), (1866) 20, (1870) 78, 79, 84, (1875) 365.
—— (Cinnyris), 615.
—— (Cyrtostomus), 615.
—— (Nectarinia), 20, 78.
Zeocephus, 298, 348.
—— cinnamomeus, 611, 657.
—— cyanescens, 611, 657.
—— rufus, (1875) 348, 411, (1877) 514, (App.) 657.
zeylanicus (Rallus), 540, 541.
—— (Sturnus), 230.
zeylonica (Ægithina), 490.
—— (Certhia), (1870) 77, 84, 87, 92, 93.
—— (Cinnyris), 77.
zeylonica (Iora), (1866) 27, 35, (1871) 106, (1876) 431.
—— (Motacilla), 33, 35.
—— (Nectarinia), (1870) 73, 77, 84, 85, (1876) 430.
—— (Nectarophila), (1870) 72, 73, 83, 85, 86, 91, 92.
Zonœnas, 129, 184.
—— radiata, 184.
Zoothera, 419.
—— marginata, 433.
Zosterops, (1869) 52, (1872) 129, 173, (1875) 363, (1876) 428.
—— atrifrons, 173, 206.
—— austeni, (1876) 431, (1878) 592, (App.) 671.
—— everetti, (1877) 529, 536, 555, (1878) 570, 641, (App.) 658, 671.
—— flava, 364.
—— intermedia, 173, 206.
—— lateralis, 265, 490, 536.
—— melanura, 364.
—— meyeni, (1875) 363, 411, (1877) 536, (App.) 658.
—— nigrifrons, 173.
—— nigrorum, (1878) 586, 592, (App.) 658, 671.
—— palpebrosa, (1874) 265, (1875) 363, 431, (1876) 490, (1871) 536.
—— parvula, 363.
—— siamensis, 431.
—— simplex, 363.
zosterops (Chloropsis), 491.

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